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COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF FORESTS AND WATERS
DIVISION OF HYDROGRAPHY

HARRISBURG

STREAM FLOW RECORDS
OF
PENNSYLVANIA

1941

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Prepared in Cooperation
with the
United States Department of the Interior
Geological Survey

FOR THE YEAR

October 1, 1940 to September 30, 1941

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STREAM FLOW RECORDS
OF
PENNSYLVANIA

for the year

OCTOBER 1, 1940 to SEPTEMBER 30, 1941

STREAM GAGING, PRECIPITATION, AND GROUND WATER

This report contains records for the year ending September 30, 1941. All stream-flow records previous to and including those for 1911, were published in one volume entitled, "Reports of the Water Supply Commission of Pennsylvania—1910 and 1911." For the years 1912 to 1921, they were published in the annual reports of the Water Supply Commission, with the records for 1917-18 and 1919-20 combined and issued in biennial form. Beginning with 1922, the records have been published by the Department of Forests and Waters, Division of Hydrography, in reports entitled, "Stream Flow Records of Pennsylvania." They were published annually with the exception of those for the 4 years, 1929-32, which were issued in one volume. Prior to 1913 they were compiled and published for calendar years. The 1914 records were tabulated for the 9 months, January to September. Subsequent records have been published for the water years, October 1 to September 30.

Since June 1, 1931, the water-resources investigations in Pennsylvania, including the collection of stream-flow data, have been carried on under cooperative agreement with the United States Department of the Interior, Geological Survey.

STREAM GAGING

On October 1, 1940, the beginning of the 1941 water year, 131 stream gaging stations were in operation. During the year, 16 new stations were established, 3 that had been previously discontinued were reestablished, and 2 that had been previously established and maintained by other agencies, were transferred to the Department of Forests and Waters, Division of Hydrography, for cooperative operation and maintenance; thus making 152 stations in operation at the end of this report period.

The location and date of establishment of the new stations are as follows:

Clarion River at Ridgway, October 1, 1940.
Little Fishing Creek at Eyers Grove, October 1, 1940.
Muncy Creek near Sonestown, October 1, 1940.
Pohopoco Creek near Parryville, October 1, 1940.
Clarion River at St. Petersburg, October 7, 1940.
Moshannon Creek at Osceola Mills, October 10, 1940.

Spring Creek near Axemann, October 13, 1940.
Buffalo Creek near Freeport, November 1, 1940.
Kettle Creek at Cross Fork, November 22, 1940.
Blackhouse Creek near English Center, November 23, 1940.
North Branch of Mehoopany Creek near Lovelton, December 12, 1940.
Dunkard Creek at Shannopin, December 28, 1940.
Wild Creek at Hatchery, February 1, 1941.
Towanda Creek at Monroeton, June 16, 1941.
Yellow Creek at Loysburg, June 20, 1941.
Toby Creek at Luzerne, August 19, 1941.

With but four exceptions, the new stations were established for the purpose of obtaining records for flood-control investigations. The Hatchery, Loysburg, and Parryville stations were established to secure records in the interests of water supplies for domestic and industrial purposes. The Monroeton station will eventually supersede the one near Monroeton where conditions are less favorable for the determination of stream discharge.

The location and date of reestablishment of the stations that had been previously discontinued are as follows:

Chartiers Creek at Carnegie, November 20, 1940.
Raccoon Creek at Moffatts Mills, September 8, 1941.
Frankstown Branch of Juniata River at Huntingdon, September 10, 1941.

These stations were established for the purpose of obtaining records for flood-control investigations. The Carnegie station was previously operated from June 5, 1915, to September 30, 1936. The Moffatts Mill station was established May 27, 1915, and discontinued July 31, 1932. The previous record for the Huntingdon station was from September 29, 1915, to February 3, 1923.

The location and date of transfer of stations to the Department of Forests and Waters, Division of Hydrography, are as follows:

Allegheny River near Rimer, November 5, 1940.
Green Lick Run at Green Lick Reservoir, August 1, 1941.

The Rimer station was established February 11, 1939, by the Corps of Engineers, U. S. Army, Pittsburgh, Pa., to secure records for flood-control investigations. The Green Lick station was established as a gage-height station by the Citizens Water Company, Scottdale, Pa., in about 1915.

At the beginning of the year, 111 of the gaging stations operated by the State were provided with wells, shelters, and water-stage recorders. During the year, 4 non-recording stations, Hazen, Markleton, Rouseville, and Russell were supplied with recorders. Twelve of the newly established stations, Axemann, Cross Fork, English Center, Eyers Grove, Hatchery, Lovelton, Luzerne, Monroeton, Osceola Mills, Parryville, Shannopin, and Sonestown, were also provided with recorder equipment. Two of the reestablished stations, Carnegie and Huntingdon, and the 2 transferred stations, Green Lick Reservoir and Rimer, were supplied with recorders. Thus a total of 131 stations were provided with wells, shelters, and water-stage recorders at the end of the 1941 water year.

This volume contains data for 165 stations, as shown by the tables on pages 24-27. Discharge measurements for stations at which insufficient data have been collected for the translation of gage heights into terms of stream flow are listed with the miscellaneous discharge measurements made during the year. The stations at Ardenheim, Keating, Keating (near), and Olyphant are gage-height stations. No discharge measurements are made at these stations and no information pertaining to them is published in this report. The Forest City station is also a gage-height station, but two discharge measurements were made there in May and their results are published with the miscellaneous discharge measurements made during the year.

The descriptions of the stations, and tables of the daily and monthly discharge are given for 138 stations that have a complete record for the year and for 17 stations that have a part-year record. The description of the station, table of daily contents, tables of monthly elevations, monthly contents, and monthly change in contents are given for the stations on Pymatuning Reservoir at Pymatuning Dam, Crooked Creek Reservoir at Crooked Creek Dam, Mahoning Creek Reservoir at Mahoning Creek Dam, and Tionesta Creek Reservoir at Tionesta Creek Dam. For the first two reservoirs mentioned, there are complete records for the year, while for the last two, the tables are for the term of record.

Any additional information that may be available and of importance to the engineer making application of these gaging-station records can be obtained upon request to the Department of Forests and Waters, Division of Hydrography, Harrisburg, Pennsylvania.

The outstanding climatic conditions that were strongly reflected in the stream flow of Pennsylvania during the water year 1940-41 were the high temperature and low precipitation. The temperature averaged 4 degrees above normal for the entire year. The two extreme monthly temperatures were in March and April. During March, the temperature was 5.7 degrees below normal, while in April it was 6.5 degrees above the average for that month. With the exception of August, the temperature was above normal for the last six months of the water year. The precipitation for the year was 7.08 inches below normal. There were deficiencies during 8 of the 12 months with 6 of them consecutive, December to May inclusive.

During the storm period early in June, the rainfalls were excessive, especially on the southwestern portion of Pennsylvania. There were heavy downpours on the 4th and 5th in parts of Fayette, Greene, and Washington Counties where streams rose rapidly and exceeded flood stages by 2 to 8 feet. Railroad, highway, and river traffic were interrupted; some communities were isolated for a short period; homes were flooded and some of them were swept from their foundations; crops were ruined; mines were flooded; and industrial plants were closed. During this period, the Monongahela River exceeded flood stage by 5.8 feet at Greensboro and 7.5 feet at Charleroi. The Ohio River rose to 1.9 feet above flood stage at Pittsburgh. The determinations of stream discharge other than those defined at gaging stations, are listed with the miscellaneous discharge measurements made during the year.

In general, the high stages on the major streams in the Delaware River Basin were in December; in the Susquehanna River Basin in April; and in the Ohio River Basin in June. The only large streams to exceed flood stages were the Monongahela, Ohio, and North Branch of Susquehanna Rivers. Although no extremely low flows were recorded, the low stages during the year, with but few exceptions, occurred in September.

The stream flows were not seriously affected by ice. The ice periods were of average length, but the effects were not due as much to the quantity and thickness of the ice as to the fact that when the ice covers broke there was not sufficient water to carry them away.

In October, the beginning of the water years, the stream flow was less than half the normal yield. During the three months November to January, the total flow was practically normal. For February and March the sum flow was about half the usual amount, while in April it was slightly more than the mean for that month. The total flow for May and June was about two-fifths of the normal flow for those months. For the period July to September, the three months flow was less than half the usual yield. Beginning with July, the monthly flows gradually diminished through the remainder of the water year with more serious drought conditions becoming a reality each month.

The stream flow for the 1941 water year in the principal drainage basins of the State was 24 percent below the mean flow for the 32 years, 1910-41, as determined from the total discharge at gaging stations on the Delaware, Susquehanna, Allegheny, Kiskiminetas, and Youghiogheny Rivers, which drain a total area of 39,577 square miles or an area equivalent to 87.7 percent of that of Pennsylvania.

The flow in the Delaware River was 21 percent below the mean flow for the 32 water years, 1910-41. In the Susquehanna River, the flow was 27 percent below the average for the 32 years, while the combined discharge at gaging stations on the Allegheny, Kiskiminetas, and Youghiogheny Rivers, in the Ohio River Basin, was 18 percent below the mean flow for the same period.

PRECIPITATION

During the water year 1940-41, the precipitation on Pennsylvania was 7.08 inches or 16.9 percent below the mean for the 54 years, October 1, 1887, to September 30, 1941.

There was a deficiency of 1.2 inches in October, which was counterbalanced by an excess in November. In December the precipitation was normal. During the next 5 consecutive months, January to May, there was a total deficiency of 6.8 inches, which was more than offset by a deficiency of 2.1 inches in September.

The average snowfall on Pennsylvania during the year was 50.2 inches, which was 8.3 inches above the 54-year normal. The greatest monthly snowfall was in March when the temperature for the month averaged 5.7 degrees below normal. It averaged 18.0 inches for the

month and was 7.7 inches above the usual amount. The greatest monthly amount of snowfall recorded was 37.7 inches at Montrose, Susquehanna County. The largest daily amount reported was 13.0 inches at Fredericksville, Huntingdon County; New Tripoli and Zionsville, Lehigh County, and at Lakeville, Wayne County.

In general, excessive amounts of rainfall were recorded in June, especially in the southwestern portion of the State. The average precipitation on Pennsylvania was above normal for the first time in 7 months. The greatest monthly amount reported was 11.73 inches for Newell, Fayette County, of which 4.30 inches was recorded for 1 day.

For the State as a whole, the precipitation in July averaged above normal for the second month since November. Stations in the northwestern part of the state were the only ones reporting amounts below normal. On other sections of Pennsylvania, rainfalls were frequent and well distributed. At George School, Bucks County, the total rainfall was 16.11 inches, which set a new record for the State for July. The previous high record for the month was 15.59 inches at Uniontown, Fayette County, in 1896.

The monthly total of 16.11 inches of rainfall at George School in July was exceptional, as it had been exceeded only twice during the period of recorded precipitation records for Pennsylvania. There was a total rainfall of 17.50 inches in August 1917 at Bloserville, Cumberland County, and 17.70 inches in August 1933 at York, York County.

A comparison of the monthly records for the water year 1940-41 with the average monthly amounts for the 54 water years, 1888-1941, as deducted from the published records of the Weather Bureau, is shown in the following table:

PRECIPITATION ON PENNSYLVANIA FOR THE YEAR ENDING SEPTEMBER 30, 1941

Month	Precipitation in Inches		
	54-year average	1940-41	Departure
October	3.19	2.03	—1.16
November	2.84	4.04	+1.20
December	3.09	3.08	—0.01
January	3.22	2.62	—0.60
February	2.85	1.04	—1.81
March	3.50	2.10	—1.40
April	3.44	2.01	—1.43
May	3.81	2.25	—1.56
June	4.14	4.95	+0.81
July	4.27	5.11	+0.84
August	4.22	4.35	+0.13
September	3.42	1.33	—2.09
The Year	41.99	34.91	—7.08

The total precipitation was only 34.91 inches for the 1940-41 water year and was the third lowest yearly amount on record. The total for the other two low years was 31.70 inches for 1924-25, and 32.97 inches for 1931-32. The 3 lowest years occurred during the last 17 years or in less than one-third the length of the entire record.

The 3 highest yearly records of precipitation were 53.39 inches in 1889-90, 52.56 inches in 1927-28, and 51.34 inches in 1932-33. They extended over a period of 44 years, which is equivalent to about four-fifths the period of the entire record. The second and third high years, however, were within a period of 6 years and were well enveloped in the period of the 3 low years.

The monthly and yearly precipitation on Pennsylvania, as deducted from the published records of the Weather Bureau, is shown in the following table:

PRECIPITATION ON PENNSYLVANIA FOR THE 54 YEARS ENDING SEPTEMBER 30, 1941

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1887–88	1.70	1.92	3.56	4.19	2.50	3.55	2.52	4.24	3.04	3.45	7.05	4.84	42.56
1888–89	4.02	3.37	3.14	3.54	1.96	2.90	4.50	5.91	5.43	6.80	3.24	5.05	49.86
1889–90	3.85	6.72[a]	2.77	3.04	4.32	5.15	3.46	6.71[a]	3.42	3.52	5.76	4.57	53.29[a]
1890–91	5.87	1.49	3.97	3.64	4.61	5.10	2.08	2.12	4.50	6.32	5.09	2.39	47.18
1891–92	3.06	2.65	4.09	4.77	1.75	4.14	2.04	5.70	5.64	3.93	3.77	2.81	44.35
1892–93	.72	4.34	1.69	2.85	5.92[a]	2.52	4.74	5.54	3.12	3.15	4.50	2.67	41.76
1893–94	3.26	2.93	3.06	2.29	3.53	1.63	3.62	8.88	2.57	2.32	1.84	6.30	42.23
1894–95	4.26	2.50	3.95	4.17	1.22	2.31	3.76	2.68	3.50	3.24	3.23	1.71	36.53
1895–96	1.99	2.48	3.22	1.43	4.90	4.51	1.75	2.85	4.64	6.89[a]	2.22	4.82	41.70
1896–97	3.19	3.55	1.20	2.15	3.28	3.22	3.30	5.24	3.38	6.26	3.17	2.18	40.12
1897–98	1.32	5.28	3.95	4.25	2.23	4.31	2.93	5.11	2.79	3.36	6.60	1.70	43.83
1898–99	5.20	4.03	2.98	3.05	4.05	4.87	1.76	3.82	3.51	3.91	4.01	4.70	45.89
1899–00	1.55	2.66	3.04	2.64	4.22	3.61	1.57[b]	2.79	3.60	4.86	3.33	1.77	35.64
1900–01	2.74	4.10	2.08	2.22	.96[b]	4.14	5.41	5.56	3.47	3.88	6.81	3.39	44.76
1901–02	1.23	2.56	5.91[a]	2.80	3.99	3.98	3.56	1.96	5.97	6.04	2.62	4.66	45.28
1902–03	4.64	1.53	5.54	3.31	4.49	4.52	3.53	1.67	6.53	5.36	5.29	2.09	48.50
1903–04	4.64	2.18	2.66	3.55	2.41	4.29	3.45	3.78	4.06	4.68	4.36	3.37	43.43
1904–05	2.87	1.14	2.48	3.70	1.70	3.86	2.84	2.59	4.39	4.87	5.71	3.41	39.56
1905–06	4.23	2.47	3.57	2.53	1.70	4.46	3 13	3.23	5.43	4.31	5.62	2.46	43.14
1906–07	4.46	1.48	3.97	4.36	1.91	4.26	2.64	3.08	4.99	3.84	2.94	6.37	44.30
1907–08	3.16	3.60	4.30	2.68	4.65	4.76	3.51	6.28	2.36	4.81	3.22	1.60	44.93
1908–09	1.95	.90	2.86	2.92	4.84	3.07	5.39	2.90	4.48	2 14[b]	2.31	2.27	36.03
1909–10	2.27	1.40	3.39	5.55	3.59	.56[b]	5.07	3.38	4.31	2 42	2.61	4.49	39.04
1910–11	1.91	2.45	2.65	3.54	2.27	2.57	3.79	1.97	4.71	2.81	7.63[a]	5.29	41.59
1911–12	4.83	2.84	3.27	1.92	2.20	5.05	4.39	3.15	3.36	5.29	5.02	5.57	46.89
1912–13	2.74	2.17	3.27	4.95	1.84	5.27	3.82	3.86	2.26[b]	4.16	2.69	3.28	40.31
1913–14	5.44	3.05	2.63	3.37	2.78	2.61	4.66	3.34	3.71	4.19	3.85	.99[b]	40.62
1914–15	2.35	1.76	4.63	5.56	3.90	1.28	1.92	4.16	4.00	5.28	6.71	2.56	44.11
1915–16	2.65	2.18	4.06	2.42	3.08	4.12	3.65	3.19	6.14	4.45	2.57	3.77	42.28
1916–17	2.25	2.27	3.07	3.60	1.46	3.68	2.08	3.39	5.38	4.33	6.69	2.31	40.51
1917–18	6.38	.63[b]	1.78	3.51	2.46	2.34	4.53	5.04	3.46	3.05	4.12	3.97	41.27
1918–19	3.17	2.03	3.38	2.53	2.23	3.57	2.70	5.80	3.90	5.90	5.43	2.07	42.71
1919–20	4.77	5.35	2.61	2.47	2.44	2.83	4.39	2.02	4.97	4.37	4.66	3.99	44.87
1920–21	1.67	3.54	3.28	2.58	2.59	3.33	3.11	3.93	3.12	4.13	3.83	4.68	39.79
1921–22	2.16	5.75	2.59	2.26	1.99	4.37	3.17	3.21	5.11	3.68	3.14	1.48	38.91
1922–23	2.51	1.21	2.75	4.26	2.16	2.49	2.94	3.50	2.73	4.24	3.10	3.55	35.44
1923–24	2.38	2.83	4.99	4.34	2.94	2.83	4.15	5.71	5.57	3.42	3.78	6.44	49.38
1924–25	.28[b]	1.54	2.13	3.53	2.16	2.56	2.32	3.49	3.04	5.57	2.28	2.80	31.70[b]
1925–26	4.83	3.56	1.72	2.80	4.06	1.91	2.03	1.78	3.53	3.82	5.69	5.81	41.64
1926–27	4.51	4.49	2.58	2.90	3.48	2.61	3.52	4.14	3.72	4.97	4.12	2.08	43.12
1927–28	6.40[a]	4.95	4.41	2.08	3.42	3.24	5.50	2.23	7.96[a]	5.44	4.60	2.33	52.56
1928–29	1.78	2.32	1.16[b]	3.37	2.87	2.69	6.12[a]	4.81	3.56	2.81	2.52	3.71	37.72
1929–30	5.59	3.39	2.77	2.25	2.69	3.03	2.71	3.03	4.20	2.23	1.47[b]	2.45	35.81
1930–31	.99	1.48	2.29	1.46	1.98	2.96	3.33	5.28	3.71	5.28	4.01	3.15	35.92
1931–32	1.83	1.52	2.85	4.51	1.64	4.41	1.71	3.69	3.15	3.39	2.82	1.45	32.97
1932–33	5.31	4.75	2.19	2.00	2.30	5.33	4.49	5.86	2.58	4.26	7.61	4.66	51.34
1933–34	1.91	1.55	2.88	2.54	1.31	2.96	3.06	2.51	3.64	4.01	4.94	6.58[a]	37.89
1934–35	1.46	3.61	2.55	3.08	2.67	2.62	2.56	3.00	4.22	5.63	3.91	3.51	38.82
1935–36	2.77	3.84	2.62	4.21	2.33	6.84[a]	3.01	2.09	3.80	2.88	4.96	2.17	41.52
1936–37	3.69	2.40	4.19	6.36[a]	2.32	2.00	5.53	3.39	4.37	4.47	5.43	1.90	46.05
1937–38	5.84	2.56	2.45	2.51	2.85	3.19	2.85	3.85	5.14	4.81	2.90	4.74	43.69
1938–39	1.81	3.10	2.56	3.14	4.45	3.59	3.70	1.58[b]	4.46	3.12	2.98	2.95	37.44
1939–40	3.88	.97	2.24	1.41[b]	3.16	4.89	5.30	4.46	4.11	3.25	4.57	3.41	41.65
1940–41	2.03	4.04	3.08	2.62	1.04	2.10	2.01	2.25	4.95	5.11	4.35	1.33	34.91
Mean	3.19	2.84	3.09	3.22	2.85	3.50	3.44	3.81	4.14	4.27	4.22	3.42	41.99

[a] Highest monthly or total amount.
[b] Lowest monthly or total amount.

GROUND WATER

The rock formations of the earth are large underground reservoirs in which a part of the water precipitated in the form of rain and snow is stored to supply wells and springs and to maintain the flow in streams during periods of dry weather.

Water levels in wells indicate the stages of the natural underground reservoirs. They show the extent to which the subterranean supplies are depleted by drought or by pumpage for domestic and industrial purposes and the extent to which they are replenished by rainfall or melting snow.

A general summary of a historic nature which describes the State-wide program of observing ground-water conditions in Pennsylvania was printed in the Stream Flow Records of Pennsylvania for the year ending September 30, 1938.

The ground-water observations were continued in 1941 and a total of about 1,500 measurements of water level were made. During the year, 2 wells were abandoned and 5 new ones were selected. The new ones were not added to the observation well program until late in the year and their levels are not included in the period of this report.

The ground-water deductions for the 1940-41 water year were made from observations at an average of 23 wells. The number of observation wells ranged from 22 to 25 during the year.

In general, the ground-water level during the year was well above the mean elevation for the 9 years, 1932-40. It was below the average for the term of record for a few days late in October, during the month of May, and for a few days early in June and late in September.

Early in October, the ground-water level was nearly a foot above normal, but by the end of the month it had receded to slightly below the average for the term of record. From about the first of November until early in January, there was a rapid replenishment of ground water and it reached an elevation 2.5 feet above the mean of record. Furthermore, it was at the highest level on record for the latter part of December and early in January.

Following the high level of ground water in the early part of January, there was a gradual decline until early in February when it was only 0.6 foot above normal. During the next week, there was a recharge of about 0.6 foot that brought the level to 1.2 feet above the mean of record. From the middle of February to early in March, there was a decline to about the normal elevation. From the middle of March to early in April, there was another recharge period amounting to 2.0 feet, that again increased the ground-water level to 1.2 feet above normal.

Following the peak height of ground water for the year on April 5, there was a marked decline amounting to 3.7 feet that brought the level down to normal on the first of May and over a half foot below normal on the first of June. During the first week in June, the ground-water level raised 1.2 feet to about 1.0 foot above the mean of record where it remained until the middle of July. During that

period, it reached a higher elevation in June and July than had been previously recorded.

In general, there was a gradual decline in ground-water level from the middle of July to the middle of September. During this period, it ranged from 1 foot to 0.2 foot above the average for previous years. By late September, however, it had receded to the normal level and at the end of the month, which was the close of the water year, it was about 0.3 foot below the average for the term of record and at its lowest level during the year.

At the end of the water year, the ground-water level was about 1 foot lower than at the beginning of the year. During the year, two wells reached new low levels for the term of record, one in October and the other in September. New high levels were observed at two wells, one in March and the other in April.

The following table shows not only the average ground-water level, referred to arbitrary datum, for the 10 years ending September 30, 1941, and for the period of record, but also the annual departure from the mean for the period of record, and the maximum and minimum recorded for each year and for the period of record.

GROUND-WATER LEVELS, IN FEET, AT OBSERVATION WELLS IN PENNSYLVANIA FOR THE 10 YEARS ENDING SEPTEMBER 30, 1941

Year	Average	Departure	Maximum	Minimum
1931–32	12.18*	—0.76	14.95 Apr. 2	9.73 Sept. and Oct. 1
1932–33	13.15	+ .21	15.40 Apr. 15	10.71 Oct. 8 and 15
1933–34	12.43	— .51	14.62 Apr. 14	10.77 Sept. 1
1934–35	13.02	+ .08	15.04 Mar. 23	10.79 Sept. 28
1935–36	12.56	— .38	17.87 Mar. 21	10.00 Sept. 26
1936–37	13.37	+ .43	16.65 May 1	10.10 Oct. 3
1937–38	13.50	+ .56	16.20 Mar. 19	10.76 Oct. 9 and Sept. 10
1938–39	12.92	— .02	16.15 Apr. 1	9.87 Sept. 23
1939–40	12.61	— .33	17.54 Apr. 20	10.05 Oct. 21
1940–41	13.54	+ .60	16.52 Apr. 5	11.02 Sept. 27
Period	12.94	------	17.87 Mar. 21, 1936	9.73 Sept. 24 and Oct. 1, 1932

* Average for 45 weeks, Nov. 28, 1931, to Oct. 1, 1932.

The table shows that for the year as a whole the elevation of the ground water was 0.60 foot above the average for the 10-year period. It also shows that, with but one exception, its departure from the average was the greatest for the term of record.

The yearly fluctuation—high to low-elevation—in ground water for the term of record has ranged from 7.87 feet in 1935-36 to 3.85 feet in 1933-34. The average annual fluctuation for the period of record is 5.71 feet. The fluctuation during the year 1940-41 was 5.50 feet or 0.21 foot less than the normal range.

STREAM FLOW RECORDS

DEFINITIONS OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, and run-off in inches. They may be defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot" is equivalent to 43,560 cubic feet and is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage and irrigation.

The following terms not in common use are here defined:

"Stage-discharge relation" an abbreviation for the term "relation of gage height to discharge."

"Control"—a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

CONVERSION TABLES

The following tables afford a ready means of conversion between the terms in common use in hydraulic computations.

Discharge in second-feet per square mile into run-off in depth in inches

Discharge (second-feet per square mile)	Run-off (depth in inches)				
	1 day	28 days	29 days	30 days	31 days
1	0.03719	1.041	1.079	1.116	1.153
2	.07438	2.083	2.157	2.231	2.306
3	.11157	3.124	3.236	3.347	3.459
4	.14876	4.165	4.314	4.463	4.612
5	.18595	5.207	5.393	5.578	5.764
6	.22314	6.248	6.471	6.694	6.917
7	.26033	7.289	7.550	7.810	8.070
8	.29752	8.331	8.628	8.926	9.223
9	.33471	9.372	9.707	10.041	10.376

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge in second-feet into run-off in acre-feet

Discharge (second-feet)	Run-off (acre-feet)				
	1 day	28 days	29 days	30 days	31 days
1	1.983	55.54	57.52	59.50	61.49
2	3.967	111.1	115.0	119.0	123.0
3	5.950	166.6	172.6	178.5	184.5
4	7.934	222.1	230.1	238.0	246.0
5	9.917	277.7	287.6	297.5	307.4
6	11.90	333.2	345.1	357.0	368.9
7	13.88	388.8	402.6	416.5	430.4
8	15.87	444.3	460.2	476.0	491.9
9	17.85	499.8	517.7	535.5	553.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge in second-feet into run-off in millions of cubic feet

Discharge (second-feet)	Run-off (millions of cubic feet)				
	1 day	28 days	29 days	30 days	31 days
1	0.0864	2.419	2.506	2.592	2.678
2	.1728	4.838	5.012	5.184	5.356
3	.2592	7.257	7.518	7.776	8.034
4	.3456	9.676	10.02	10.37	10.71
5	.4320	12.10	12.53	12.96	13.39
6	.5184	14.51	15.04	15.55	16.07
7	.6048	16.93	17.54	18.14	18.75
8	.6912	19.35	20.05	20.74	21.42
9	.7776	21.77	22.55	23.33	24.10

Note—For part of a month multiply the run-off for 1 day by the number of days.

Discharge (second-feet)	Run-off (millions of gallons)				
	1 day	28 days	29 days	30 days	31 days
1	0.6463	18.10	18.74	19.39	20.04
2	1.293	36.20	37.48	38.78	40.08
3	1.939	54.30	56.22	58.17	60.12
4	2.585	72.40	74.96	77.56	80.16
5	3.232	90.50	93.70	96.95	100.2
6	3.878	108.6	112.4	116.3	120.2
7	4.524	126.7	131.2	135.7	140.3
8	5.170	144.8	149.9	155.1	160.3
9	5.817	162.9	168.7	174.5	180.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

Velocity in feet per second into velocity in miles per hour

(1 foot per second=0.681818 mile per hour, or very nearly two-thirds mile per hour; 1 mile per hour=1.46666 feet per second. In computing the table the values 0.68182 and 1.4667 were used).

Feet per second (units)	Miles per hour for tenths of foot per second									
	0	1	2	3	4	5	6	7	8	9
0	0.000	0.068	0.136	0.205	0.273	0.341	0.409	0.477	0.545	0.614
1	.682	.750	.818	.886	.995	1.02	1.09	1.16	1.23	1.30
2	1.36	1.43	1.50	1.57	1.64	1.70	1.77	1.84	1.91	1.98
3	2.05	2.11	2.18	2.25	2.32	2.39	2.45	2.52	2.59	2.66
4	2.73	2.80	2.86	2.93	3.00	3.07	3.14	3.20	3.27	3.34
5	3.41	3.48	3.55	3.61	3.68	3.75	3.82	3.89	3.95	4.02
6	4.09	4.16	4.23	4.30	4.36	4.43	4.50	4.57	4.64	4.70
7	4.77	4.84	4.91	4.98	5.05	5.11	5.18	5.25	5.32	5.39
8	5.45	5.52	5.59	5.66	5.73	5.80	5.86	5.93	6.00	6.07
9	6.14	6.20	6.27	6.34	6.41	6.48	6.55	6.61	6.68	6.75

CONVENIENT EQUIVALENTS

LENGTH

1 inch=1/12 foot=0.027778 yard=0.000015783 mile=2.54 centimeters.
1 foot=12 inches=1/3 yard=0.00018939 mile=0.3048 meter.
1 yard=36 inches=3 feet=0.00056818 mile=0.9144 meter.
1 mile=63,360 inches=5,280 feet=1,760 yards=1.60935 kilometers.
1 meter=100 centimeters=0.001 kilometer=39.37 inches=3.2808 feet=1.0936 yards=0.00062137 mile

SURFACE

1 square inch=0.006944 square foot=0.0007716 square yard=0.0000001594 acre=0.0000000002491 square mile=6.45163 square centimeters.
1 square foot=144 square inches=1/9 square yard=0.000022957 acre=0.00000003587 square mile=0.092903 square meter.
1 square yard=1.296 square inches=9 square feet=0.0002066 acre=0.0000003228 square mile =0.83613 square meter.
1 acre=6,272,640 square inches=43,560 square feet=4,840 square yards=0.0015625 square mile =208.71 feet square=0.404687 hectare.
1 square mile=4,014,489,600 square inches=27,878,400 square feet=3,097,600 square yards= 640 acres=259 hectares.
1 square meter=10,000 square centimeters=0.0001 hectare=0.000001 square kilometer=1,550 square inches=10.7639 square feet=1.19598 square yards=0.0002471 acre= 0.0000003861 square mile.

VOLUME

1 cubic inch=0.004329 United States gallon=0.0005787 cubic foot=16.3872 cubic centimeters.
1 United States gallon=231 cubic inches=0.13368 cubic foot=0.00000307 acre foot=3.78543 liters.
1 cubic foot=1.728 cubic inches=7.4805 United States gallons=0.037037 cubic yards= 0.000022957 acre-foot=28.317 liters.
1 cubic yard=46.656 cubic inches=27 cubic feet=0.00061983 acre-foot=0.76456 cubic meter.
1 acre-foot=325.851 United States gallons=43,560 cubic feet=1,613,333 cubic yards=1,233.49 cubic meters.
1 cubic meter, stere, or kiloliter=1,000,000 cubic centimeters=1,000 liters=61,023.4 cubic inches=264.17 United States gallons=35.3145 cubic feet=1.30794 cubic yards= 0.000810708 acre-foot.

HYDRAULICS

1 United States gallon of water weighs 8.34 pounds avoirdupois.
1 cubic foot of water weighs 62.5 pounds avoirdupois.
1 second-foot=448.8 United States gallons per minute
1 second-foot=7.48 United States gallons per second=646,317 United States gallons per day.
=26,929.9 United States gallons per hour=86,400 cubic feet per day
1 second-foot=60 cubic feet per minute=3,600 cubic feet per hour=86,400 cubic feet per day
=31,536,000 cubic feet per year=0.000214 cubic mile per year.
1 second-foot=0.9917 acre-inch per hour=1.983471 acre-foot per day=723.996942 acre-feet per year.
1 second-foot=0.028317 cubic meter per second=1.699 cubic meters per minute=101.941 cubic meters per hour=2,446.58 cubic meters per day.
1 second-foot for 1 year (365 days) will cover 1 square mile, 1.1312 feet or 13.5744 inches deep.
1 second-foot falling 10 feet=1.135 horsepower.
100 United States gallons per minute=0.223 second-foot=0.442 acre-foot in one day.
1 million gallons per day=1.55 second-feet=3.07 acre-feet per day=2.629 cubic meters per minute.
1 million gallons per month=0.05525 second-feet for one 28-day month=0.05335 second-foot for one 29-day month=0.05157 second-foot for one 30-day month=0.04991 second-foot for one 31-day month.
1,000,000,000 (1 United States billion) cubic feet=11,570 second-feet for one day=413 second-feet for one 28-day month=399 second-feet for one 29-day month=386 second-feet for one 30-day month=373 second-feet for one 31-day month.
1 horsepower=1 second foot falling 8.8 feet.
1 horsepower=1 second-foot folling 11.0 feet, 80 percent efficiency.
1 horsepower=5,694,120 foot-gallons per day=550 foot-pounds per second=33.000 foot-pounds per minute=1,980,000 foot-pounds per hour=2,545 British thermal units per hour=76 kilogrammeters per second=1.27 kilogrammeters per minute=746 watts.
1.3405 horsepower=1 kilowatt.
1 inch deep on 1 square mile=2.323,200 cubic feet=0.0737 second-foot for 1 year.
1 foot deep (head of 1 foot)=0.434 pound pressure on 1 square inch.
1 cubic meter per minute=0.5886 second-foot=4.403 United States gallons per second=1.1674 acre-feet per day.
1 foot per second=0.68 mile per hour=1.097 kilometers per hour.
Acceleration of gravity, g=32.16 feet per second.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1940, and ending September 30, 1941. At the beginning of January in Pennsylvania and in most parts of the United States, much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring months. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore, the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage, or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Rating tables giving the discharge for any stage are computed from the rating curves which are constructed from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.

The data presented for each gaging station covered by this report comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. For stations with insufficient base data to determine the daily discharge, the results of current-meter discharge measurements are published in the table of miscellaneous discharge measurements.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharges, accuracy of the records, and average discharge for the stations that have a record for ten or more years. The maximum discharge given under "Extremes" represents the crest discharge determined from records of stage by water-stage recorders, or in case of nonrecording gages it is determined from floodmarks or from graphs based on gage readings made once daily or more frequently.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be the mean of two or more readings in the case of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation, the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using an instrument known as the discharge integrator, which has a setting to correspond with the rating curve of a station and determines the mean daily discharge from a continuous gage-height graph.

At most gaging stations in Pennsylvania and in the northern part of the United States, the stage-discharge relation is affected by ice, making it impossible to compute the discharge in the normal manner. Discharge for periods of ice effect is computed on the basis of available winter discharge measurements and gage heights, due consideration being given to all available information relative to temperature and precipitation records, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. The periods of ice effect and the days during the winter period when discharge measurements were made are indicated by symbols and footnotes in connection with the station records.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures for that month given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at cres. height. Likewise, in the column headed "Minimum," the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on Page 17.

ACCURACY OF FIELD DATA AND COMPUTED RECORDS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that the records are accurate within 5 percent; "good" within 10 percent; "fair" within 15 percent; and "poor" within 20 percent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

COOPERATION

Financial assistance was rendered by the Corps of Engineers, U. S. Army, Pittsburgh, Pa., in the operation and maintenance of all gaging stations located in the Ohio River Basin excepting Green Lick Reservoir, Greenville, Orangeville, Piney, Pymatuning Dam (Reservoir), Pymatuning Dam (Shenango River), Pymatuning Dam (Sugar Run), and Salisbury. In the Susquehanna River Basin, the Corps of Engineers, U. S. Army, Baltimore, Md., rendered financial assistance in the establishment and operation of the stations at Archbald, Ardenheim, Axemann, Cross Fork, English Center, Eyers Grove, Forest City, Huntingdon (Frankstown Branch of Juniata River), Karthaus, Keating, Keating (near), Lewisburg, Lovelton, Luzerne, Olyphant, Osceola Mills, Penbrook, Reedsville, Sonestown, South Williamsport, Tyrone (Little Bald Eagle Creek), Tyrone (Little Juniata River), Weigh Scale, Wilkes-Barre (Solomon Creek), Williamsport (Grafius Run), and York (Codorus Creek). Financial assistance was rendered by the City of Harrisburg in the establishment and operation of the Carsonville, Dauphin, and Manada Gap gaging stations in the Susquehanna River basin.

The stream-flow records for the Delaware River Basin stations at Port Jervis, Belvidere, Riegelsville, and Trenton are furnished by the United States Geological Survey offices at Albany, N. Y., and Trenton, N. J. Records for the Susquehanna River Basin stations at Knoxville, Nelson, Tioga, and Waverly, N. Y., are furnished by the United States Geological Survey office at Albany, N. Y.

Stream-flow records for the Salisbury station in the Ohio River Basin and the Bedford Valley station in the Potomac River Basin are furnished by the United States Geological Survey office at College Park, Md.

Records for the Crooked Creek, Mahoning Creek, and Tionesta Creek Reservoirs are furnished by Corps of Engineers, U. S. Army, Pittsburgh, Pa.

Acknowledgment is due the following agencies for equipment and assistance in the collection of records:

Citizens Water Co., Scottdale, Pa., (Green Lick Reservoir).
City of Bethlehem, Pa., (Parryville and Hatchery).
City of Lancaster, Pa., (Lancaster).
City of Philadelphia, Pa., (Philadelphia).
City of Wilmington, Del., (Chadds Ford).
Clarion River Power Co., Johnstown, Pa., (Piney).
Glatfelter Paper Co., Spring Grove, Pa., (Spring Grove).
Hayt Engineering Corporation, Corning, N. Y., (Loyalsock).
Palmer Water Co., Palmerton, Pa., (Palmerton and Parryville).
Panther Valley Water Co., Lansford, Pa., (Tamaqua).
Pennsylvania Edison Co., Altoona, Pa., (Saxton).
Pennsylvania Power and Light Co., Allentown, Pa., (Wilsonville).
Philadelphia Electric Co., Philadelphia, Pa., (Harrisburg, Lancaster, and Manchester).
Philadelphia Suburban Water Co., Bryn Mawr, Pa., (Langhorne).
Safe Harbor Water Power Corp., Baltimore, Md., (Marietta).
United States Engineer Office, Baltimore, Md., (Dalmatia, Gapsville, Huntingdon-Standing Stone Creek, Marklesburg, Millerstown, Penns Creek, Shermandale, and Wapwallopen).
United States Engineer Office, Philadelphia, Pa., (Bethlehem and Tannery).
United States Weather Bureau, Harrisburg, Pa., (Cedar Run, Harrisburg, Huntingdon—Frankstown Branch of Juniata River, Karthaus, Mapleton Depot, Newport, Renovo, Sunbury, Towanda, Wilkes-Barre, and Williamsport).
United States Weather Bureau, Pittsburgh, Pa., (Beaver Falls, Confluence, Connellsville, Franklin, Punxsutawney, and Seward).
Westinghouse Electric and Mfg. Co., E. Pittsburgh, Pa., (Trafford).
West Penn Power Co., Pittsburgh, Pa., (Connellsville).
West Virginia Pulp and Paper Co., Williamsburg, Pa., (Williamsburg).
York Water Co., York, Pa., (South Branch of Codorus Creek).

The Commonwealth of Pennsylvania is divided into six drainage basins: Delaware, Susquehanna, Potomac, Genesee, Erie, and Ohio. The hydrographic data in the following pages are divided into four groups corresponding to the basins in which the stations are located. There are no gaging stations in the Erie or Genesee Basins. The information available for each station is shown in the description of the station. The stations in each basin are shown in the following tables.

GAGING STATIONS IN DELAWARE RIVER BASIN*

Stream	*Location*
Delaware River	Port Jervis, N. Y.
Delaware River	Belvidere, N. J.
Delaware River	Riegelsville, N. J.
Delaware River	Trenton, N. J.
Lackawaxen River	Hawley
Wallenpaupack Creek	Wilsonville
Bushkill Creek	Shoemakers
Lehigh River	Tannery
Lehigh River	Bethlehem
Pohopoco Creek	Parryville
Wild Creek	Hatchery
Aquashicola Creek	Palmerton
Tohickon Creek	Pipersville
Neshaminy Creek	Langhorne
Schuylkill River	Pottstown
Schuylkill River	Philadelphia
Little Schuylkill River	Tamaqua
Perkiomen Creek	Graters Ford
Ridley Creek	Moylan
Chester Creek	Chester
Brandywine Creek	Chadds Ford

GAGING STATIONS IN SUSQUEHANNA RIVER BASIN*

Stream	*Location*
North Branch of Susquehanna River	Waverly, N. Y.
North Branch of Susquehanna River	Towanda
North Branch of Susquehanna River	Wilkes-Barre
North Branch of Susquehanna River	Danville
Susquehanna River	Sunbury
Susquehanna River	Harrisburg
Susquehanna River	Marietta
Tioga River	Tioga
Cowanesque River	Nelson
Troups Creek	Knoxville
Towanda Creek	Monroeton (near)
Towanda Creek	Monroeton
North Branch of Mehoopany Creek	Lovelton
Tunkhannock Creek	Dixon
Lackawanna River	Forest City
Lackawanna River	Archbald
Lackawanna River	Olyphant
Lackawanna River	Old Forge
Toby Creek	Luzerne
Solomon Creek	Wilkes-Barre
Wapwallopen Creek	Wapwallopen
Fishing Creek	Bloomsburg
Little Fishing Creek	Eyers Grove
West Branch of Susquehanna River	Bower
West Branch of Susquehanna River	Karthaus
West Branch of Susquehanna River	Keating (near)
West Branch of Susquehanna River	Keating
West Branch of Susquehanna River	Renovo
West Branch of Susquehanna River	Williamsport
West Branch of Susquehanna River	Lewisburg

*For information available on each station, see description of station.

GAGING STATIONS IN SUSQUEHANNA RIVER BASIN (Continued)*

Stream	*Location*
Clearfield Creek	Dimeling
Moshannon Creek	Osceola Mills
Sinnemahoning Creek	Sinnemahoning
Driftwood Branch of Sinnemahoning Creek	Sterling Run
Kettle Creek	Cross Fork
North Bald Eagle Creek	Beech Creek Station
Spring Creek	Axemann
Pine Creek	Cedar Run
Blackhouse Creek	English Center
Lycoming Creek	Trout Run
Hageman Run	South Williamsport
Grafius Run	Williamsport
Loyalsock Creek	Loyalsock
Muncy Creek	Sonestown
Shamokin Creek	Weigh Scale
Penn Creek	Penns Creek
Mahantango Creek East	Dalmatia
Frankstown Branch of Juniata River	Williamsburg
Frankstown Branch of Juniata River	Huntingdon
Juniata River	Ardenheim
Juniata River	Mapleton Depot
Juniata River	Newport
Little Juniata River	Tyrone
Little Juniata River	Spruce Creek
Little Bald Eagle Creek	Tyrone
Standing Stone Creek	Huntingdon
Raystown Branch of Juniata River	Saxton
Dunning Creek	Belden
Brush Creek	Gapsville
Yellow Creek	Loysburg
Great Trough Creek	Marklesburg
Aughwick Creek	Three Springs
Kishacoquillas Creek	Reedsville
Tuscarora Creek	Port Royal
Cocolamus Creek	Millerstown
Sherman Creek	Shermandale
Clark Creek	Carsonville
Stony Creek	Dauphin
Conodoquinet Creek	Hogestown
Paxton Creek	Penbrook
Swatara Creek	Harper Tavern
Manada Creek	Manada Gap
West Conewago Creek	Manchester
Codorus Creek	Spring Grove
Codorus Creek	York
South Branch of Codorus Creek	York
Conestoga Creek	Lancaster

GAGING STATIONS IN POTOMAC RIVER BASIN*

Stream	*Location*
Evitts Creek	Bedford Valley
Licking Creek	Sylvan

*For information available on each station, see description of station.

GAGING STATIONS IN OHIO RIVER BASIN*

Stream	*Location*
Allegheny River	Eldred
Allegheny River	Kinzua
Allegheny River	Franklin
Allegheny River	Parkers Landing
Allegheny River	Rimer
Allegheny River	Kittanning
Allegheny River	Natrona
Ohio River	Sewickley
Conewango Creek	Russell
Brokenstraw Creek	Youngsville
Tionesta Creek	Lynch
Tionesta Creek Reservoir	Tionesta Creek Dam
Tionesta Creek	Tionesta Creek Dam
Oil Creek	Rouseville
French Creek	Carters Corners
French Creek	Venango
French Creek	Utica
Sugar Creek	Sugarcreek
Clarion River	Ridgway
Clarion River	Cooksburg
Clarion River	Piney
Clarion River	St. Petersburg
Redbank Creek	St. Charles
Mahoning Creek	Punxsutawney
Mahoning Creek Reservoir	Mahoning Creek Dam
Mahoning Creek	Mahoning Creek Dam
Little Mahoning Creek	McCormick
Crooked Creek	Idaho
Crooked Creek Reservoir	Crooked Creek Dam
Crooked Creek	Crooked Creek Dam
Stony Creek	Ferndale
Conemaugh River	Seward
Conemaugh River	Tunnelton
Kiskiminetas River	Vandergrift
Little Conemaugh River	East Conemaugh
Blacklick Creek	Blacklick
Loyalhanna Creek	Kingston
Loyalhanna Creek	Loyalhanna Creek Dam
Buffalo Creek	Freeport
Monongahela River	Greensboro
Monongahela River	Charleroi
Monongahela River	Braddock
Dunkard Creek	Shannopin
South Fork of Tenmile Creek	Jefferson
Youghiogheny River	Youghiogheny River Dam
Youghiogheny River	Confluence
Youghiogheny River	Connellsville
Youghiogheny River	Sutersville
Caselman River	Markleton
Big Piney Run	Salisbury
Laurel Hill Creek	Ursina
Green Lick Run	Green Lick Reservoir
Turtle Creek	Trafford
Chartiers Creek	Carnegie

*For information available on each station, see description of station.

GAGING STATIONS IN OHIO RIVER BASIN (Continued)*

Stream	*Location*
Beaver River	Wampum
Beaver River	Beaver Falls
Pymatuning Reservoir	Pymatuning Dam
Shenango River	Pymatuning Dam
Shenango River	Sharpsville
Sugar Run	Pymatuning Dam
Little Shenango River	Greenville
Pymatuning Creek	Orangeville
Connoquenessing Creek	Hazen
Slippery Rock	Wurtemburg
Raccoon Creek	Moffatts Mill

*For information available on each station, see description of station.

GAGING-STATION RECORDS

DELAWARE RIVER BASIN

DELAWARE RIVER BASIN

Delaware River at Port Jervis, N. Y.

Location.- Water-stage recorder, lat. 41°22'20", long. 74°41'50", near highway bridge at Port Jervis, Orange County, 1¼ miles upstream from Neversink River. Datum of gage is 415.35 feet above mean sea level, datum of 1929.
Drainage area.- 3,076 square miles.
Records available.- October 1904 to September 1941.
Average discharge.- 37 years, 5,526 second-feet.
Extremes.- Maximum discharge during year, 40,300 second-feet Dec. 30 (gage height, 9.53 feet); minimum, 347 second-feet (regulated) Sept. 29 (gage height, 0.96 foot); minimum daily, 360 second-feet Sept. 24.

1904-41: Maximum discharge, 113,000 second-feet Apr. 1, 1940, from rating curve extended above 75,000 second-feet by logarithmic plotting; maximum gage height, 17.55 feet Mar. 18, 1936; minimum discharge, 175 second-feet Sept. 22, 23, 1908 (gage height, 0.60 foot); minimum daily discharge, 175 second-feet Sept. 22, 23, 1908.

Maximum discharge known, about 155,000 second-feet Oct. 10, 11, 1903 (gage height, 23.1 feet, revised, reported by U. S. Weather Bureau), from rating curve extended above 35,000 second-feet by logarithmic plotting.

Maximum stage known, 25.5 feet Mar. 8, 1904 (ice jam).

Remarks.- Records excellent except those for periods of ice effect and those for periods of fragmentary or doubtful gage-height record, all of which are good. Large diurnal fluctuations at medium and low stages caused by power plants on tributary streams. Flow regulated considerably by Lake Wallenpaupack and Toronto, Cliff Lake, and Swinging Bridge Reservoirs (combined capacity, 12,300,000,000 cubic feet).
Cooperation.- Records furnished by U. S. Geological Survey, Albany, N. Y.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,180	2,960	3,810	16,600	*3,000	2,850	9,180	2,940	1,280	1,870	2,750	652
2	1,920	3,010	3,180	13,000	2,200	2,340	11,700	2,870	1,550	2,260	6,830	587
3	2,230	8,070	3,000	11,100	2,400	2,620	14,100	2,420	1,620	1,750	4,020	725
4	2,070	6,720	2,900	9,260	3,500	3,650	16,100	2,090	1,750	1,310	3,000	733
5	1,660	5,020	2,800	7,850	3,460	5,210	17,100	2,420	2,810	1,160	2,300	1,620
6	1,390	4,090	2,500	7,130	2,800	*6,680	27,500	2,740	3,910	1,070	2,080	1,400
7	1,380	4,040	2,890	6,160	3,020	5,220	29,000	2,590	3,160	938	1,400	1,000
8	2,460	3,590	2,960	5,300	4,020	4,250	21,200	2,630	2,310	1,230	1,310	750
9	3,470	3,230	3,300	5,030	5,700	3,380	17,600	2,650	1,860	1,440	1,160	960
10	3,430	2,760	3,480	4,770	6,840	3,890	16,000	3,440	1,630	1,260	916	1,270
11	2,900	2,620	3,390	4,400	6,520	4,140	14,800	4,300	1,440	1,270	976	1,020
12	2,220	3,070	3,660	3,930	5,560	3,830	13,700	4,330	1,240	1,370	1,460	694
13	1,660	5,160	*3,600	3,710	4,840	3,600	12,600	3,930	1,540	1,270	1,460	804
14	1,600	7,120	6,140	4,120	4,630	3,480	11,800	3,480	1,510	1,410	1,350	857
15	2,460	11,100	5,940	3,750	4,300	3,090	14,000	2,970	1,430	1,570	1,310	718
16	2,060	15,300	5,120	3,300	4,980	3,070	12,800	3,060	1,510	1,340	1,220	754
17	2,110	11,400	8,380	3,860	*6,600	4,140	10,500	2,610	1,690	1,420	900	576
18	2,200	9,510	11,000	4,170	5,610	4,490	9,260	2,290	2,340	1,820	923	617
19	2,080	*7,920	8,420	4,220	4,930	4,080	7,680	2,310	2,460	1,670	1,450	514
20	1,660	6,920	8,040	*3,200	4,530	3,510	6,960	2,560	2,240	1,200	1,410	492
21	1,660	6,210	6,970	3,290	4,500	4,000	6,340	2,230	1,950	940	1,220	573
22	2,040	5,760	6,950	3,280	3,750	3,760	5,650	1,890	1,470	1,760	1,650	f460
23	2,080	5,100	6,480	2,860	3,200	3,910	5,090	2,040	1,480	1,670	1,570	f430
24	2,060	4,750	5,940	3,670	3,360	5,450	5,030	1,550	1,520	1,520	706	f360
25	2,050	4,540	4,890	3,100	3,590	*6,960	4,840	1,440	1,430	1,530	1,030	483
26	2,000	4,530	4,550	2,450	3,420	6,910	4,180	1,450	1,190	1,510	1,910	699
27	1,250	4,430	5,570	2,780	3,200	7,200	3,520	1,340	1,650	778	2,140	1,100
28	1,260	3,890	10,500	3,500	3,350	8,260	3,670	1,430	2,020	848	1,850	580
29	1,840	3,490	28,100	3,400		9,180	3,710	1,490	1,280	1,590	1,140	f442
30	2,430	3,520	*36,800	3,200		8,820	3,500	1,280	1,300	1,730	916	751
31	3,130		25,300	3,200		7,960		1,260		2,150	741	

Month	Observed					Adjusted for change in reservoir contents /		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	64,940	3,470	1,250	2,095		1,447	0.470	0.54
November	169,830	15,300	2,620	5,661		6,044	1.96	2.19
December	236,360	36,800	2,500	7,625		7,713	2.51	2.89
Calendar year 1940	2,128,435	86,900	652	5,815		5,949	1.93	26.32
January	159,590	16,600	2,450	5,148		4,698	1.53	1.76
February	117,810	6,840	2,200	4,208		3,741	1.22	1.27
March	149,930	9,180	2,340	4,836		4,793	1.56	1.80
April	339,110	29,000	3,500	11,300		11,950	3.88	4.33
May	76,030	4,330	1,260	2,453		2,379	.773	.89
June	54,570	3,910	1,190	1,819		1,725	.561	.63
July	44,654	2,260	778	1,440		900	.293	.34
August	53,098	6,830	706	1,713		1,353	.440	.51
September	22,621	1,620	360	754		481	.156	.17
Water year 1940-41	1,488,543	36,800	360	4,078		3,925	1.28	17.32

Peak discharge.- Dec. 30 (2:15 p.m.) 40,300 sec.-ft.; Apr. 6 (8:30 p.m.) 34,100 sec.-ft.
/ Adjusted for change in contents in Lake Wallenpaupack and Toronto, Cliff Lake, and Swinging Bridge Reservoirs.
f Fragmentary or doubtful gage-height record; discharge computed on basis of partially estimated gage heights.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 11, 16, 20, Jan. 28 to Feb. 3, Feb. 15, 17, Mar. 13.

Delaware River at Belvidere, N. J.

Location.- Water-stage recorder, lat. 40°49'36", long. 75°05'02", at Belvidere, Warren County, just downstream from Pequest River. Datum of gage is 226.43 feet above mean sea level, datum of 1929.
Drainage area.- 4,542 square miles.
Records available.- October 1922 to September 1941.
Average discharge.- 19 years, 7,919 second-feet (adjusted for change in contents in major lakes and reservoirs upstream).
Extremes.- Maximum discharge during year, 50,400 second-feet Dec. 31 (gage height, 12.65 feet); minimum, 730 second-feet Sept. 25, 26 (gage height, 2.20 feet).
1922-41: Maximum discharge, 179,000 second-feet Mar. 19, 1936 (gage height, 25.0 feet); minimum, that of Sept. 25, 26, 1941.
Maximum stage known, 28.6 feet Oct. 10, 1903, from floodmark (discharge, 220,000 second-feet, from rating curve extended above 170,000 second-feet).
Remarks.- Records excellent except those for periods of faulty recorder graph, which are good. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs on Mongaup River (combined capacity, 12,300,000,000 cubic feet).
Cooperation.- Records furnished by U. S. Geological Survey, Trenton, N. J.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,330	4,560	5,740	26,500	4,530	4,220	13,200	5,140	2,050	2,010	3,190	1,320
2	3,060	5,000	5,710	19,400	4,530	4,560	15,500	3,890	2,210	2,670	g4,380	1,130
3	2,940	9,100	5,060	16,800	3,870	4,480	g18,500	4,270	2,380	2,940	g6,860	1,080
4	3,400	10,800	4,450	14,800	3,700	5,090	g20,400	3,700	2,550	2,460	g4,270	1,090
5	3,140	8,870	4,400	12,500	4,400	5,990	g22,700	3,470	3,670	2,210	g3,650	1,170
6	2,630	7,030	4,500	10,700	4,400	7,550	g31,700	3,840	5,840	1,920	g2,690	1,800
7	2,310	6,240	4,160	9,600	4,370	8,270	g45,000	4,120	5,780	1,770	g2,400	1,840
8	2,370	5,900	4,830	8,310	6,530	6,500	g34,000	3,940	4,450	5,130	g1,800	1,330
9	3,520	5,200	4,750	7,410	7,910	5,900	g26,400	3,960	3,450	5,350	g1,740	1,110
10	4,400	4,720	4,920	7,590	8,460	5,680	g23,000	4,320	2,830	3,750	g1,590	1,200
11	4,160	4,220	5,030	6,960	9,060	6,310	g20,500	4,860	2,440	3,020	g1,320	1,650
12	3,560	4,940	4,920	6,370	8,790	4,500	g19,000	5,620	2,200	2,910	g1,360	1,370
13	2,960	7,340	5,320	5,930	7,730	5,900	g17,500	5,440	2,000	3,450	1,820	1,090
14	2,440	10,300	5,710	5,680	7,550	5,620	16,100	4,970	2,400	3,230	1,740	1,100
15	2,360	15,900	8,380	5,090	8,270	5,740	16,600	4,450	2,440	3,000	1,710	1,190
16	3,120	23,300	7,300	4,450	8,130	5,870	17,800	3,990	2,650	2,830	2,760	1,060
17	2,730	19,600	10,100	4,860	8,160	6,700	14,800	4,120	2,590	2,670	2,440	1,020
18	2,710	15,400	14,000	6,210	9,370	7,060	13,100	3,630	3,880	2,850	1,720	1,000
19	2,770	13,000	12,800	6,560	7,950	6,700	11,500	3,250	4,800	3,140	1,590	881
20	2,630	11,100	10,900	5,870	7,550	6,120	10,100	3,270	4,320	2,790	2,060	923
21	2,270	10,100	10,700	4,640	7,200	6,560	9,140	3,430	3,700	2,160	2,130	804
22	2,180	9,100	9,720	4,800	7,000	7,100	8,530	3,040	3,100	1,740	1,740	867
23	2,590	8,490	9,330	5,140	5,960	6,860	7,770	2,670	2,500	2,440	2,070	888
24	2,650	7,870	8,980	4,450	5,440	7,980	7,480	2,850	2,610	2,360	2,040	797
25	2,650	7,200	7,770	4,080	5,590	10,200	7,380	2,290	2,500	2,120	1,350	784
26	2,630	6,930	6,960	4,720	5,620	11,000	6,860	2,090	2,270	2,380	1,700	760
27	2,570	7,130	7,300	3,750	5,290	11,400	5,960	2,070	1,950	2,120	3,000	860
28	1,850	6,400	10,200	3,520	5,030	12,300	5,290	2,050	2,290	1,460	2,940	1,200
29	1,760	5,960	28,300	4,940		14,000	5,500	2,090	2,590	1,410	2,440	954
30	2,770	5,560	44,900	4,670		13,900	5,320	2,110	2,020	2,210	1,790	860
31	4,120		41,900	4,450		12,600		1,900		2,460	1,480	

Month	Observed					Adjusted for change in contents ⁄		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	87,580	4,400	1,760	2,825		2,177	0.479	0.55
November	267,260	23,300	4,220	8,909		9,292	2.05	2.29
December	319,040	44,900	4,160	10,290		10,380	2.29	2.64
Calendar year 1940	3,285,830	129,000	1,320	8,978		9,112	2.01	27.32
January	240,750	26,500	3,520	7,766		7,317	1.61	1.86
February	182,390	9,370	3,700	6,514		6,047	1.33	1.38
March	232,660	14,000	4,220	7,505		7,462	1.64	1.89
April	476,630	45,000	5,290	15,890		16,540	3.64	4.06
May	110,840	5,620	1,900	3,575		3,502	.771	.89
June	90,460	5,840	1,950	3,015		2,922	.643	.72
July	82,960	5,350	1,410	2,676		2,136	.470	.54
August	73,770	6,860	1,320	2,380		2,019	.445	.51
September	33,128	1,840	760	1,104		832	.183	.20
Water year 1940-41	2,197,468	45,000	760	6,020		5,867	1.29	17.53

g Recorder graph faulty; discharge computed on basis of wire-weight gage readings.
⁄ Adjusted for change in contents in Lake Wallenpaupack and in Toronto, Cliff Lake, and Swinging Bridge Reservoirs.

Delaware River at Riegelsville, N. J.

Location.- Water-stage recorder, lat. 40°35'36", long. 75°11'17", at suspension bridge at Riegelsville, Warren County, 600 feet upstream from Musconetcong River. Datum of gage is 125.12 feet above mean sea level, datum of 1929.
Drainage area.- 6,344 square miles (including that of Musconetcong River).
Records available.- July 1906 to September 1941 (after September 1931, flow of Musconetcong River included).
Average discharge.- 35 years, 10,930 second-feet (including flow of Musconetcong River after Sept. 30, 1941; adjusted for diversion and change in contents in major lakes and reservoirs upstream).
Extremes.- Maximum discharge during year, 55,000 second-feet Apr. 7 (gage height, 13.92 feet); minimum, not including flow of Delaware Division Canal, 1,200 second-feet Sept. 26 (gage height, 1.65 feet).
1906-41: Maximum discharge, 210,000 second-feet Mar. 19, 1936 (gage height, 32.45 feet), by slope-area method; minimum, not including flow in canal, 870 second-feet Sept. 20, 1908 (gage height, 1.55 feet).
Maximum stage known, 35.9 feet Oct. 10, 1903, from floodmarks (discharge, about 275,000 second-feet).
Remarks.- Records good. Water diverted upstream to Delaware Division Canal for navigation. Flow regulated by Lakes Hopatcong and Wallenpaupack and reservoirs on Mongaup River (combined capacity, 13,100,000,000 cubic feet).
Cooperation.- Records furnished by U. S. Geological Survey, Trenton, N. J.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,750	6,450	8,240	34,200	a6,500	6,320	18,000	7,270	3,130	3,420	5,030	2,590
2	4,470	7,810	8,740	26,000	a6,500	6,510	21,400	6,700	3,720	4,340	5,560	2,300
3	4,810	12,200	7,810	22,500	a6,000	6,850	25,000	6,230	3,880	4,500	8,470	2,170
4	5,320	15,000	6,850	20,100	a5,500	7,910	27,200	5,920	4,010	4,420	6,200	2,030
5	5,320	12,200	6,790	17,200	a5,500	8,570	29,600	5,440	5,030	4,040	4,780	2,130
6	4,500	10,000	6,730	14,600	6,230	9,960	39,600	5,620	8,470	3,720	4,280	2,530
7	4,040	8,740	6,570	13,300	6,910	10,800	52,800	5,980	8,540	3,420	3,700	2,910
8	3,750	8,300	7,230	11,500	11,800	9,010	43,300	5,920	6,910	6,220	3,060	2,370
9	5,150	7,550	7,390	10,400	11,400	8,400	35,200	6,230	5,620	10,200	2,700	2,200
10	6,170	6,910	7,200	10,700	11,200	8,140	30,800	6,230	4,610	7,070	2,530	2,060
11	6,110	6,450	7,330	9,960	11,500	8,810	27,700	6,880	4,010	5,620	2,340	2,510
12	5,440	7,620	7,230	9,050	11,700	8,540	25,400	7,460	3,640	5,030	2,200	2,410
13	4,890	11,900	7,550	9,010	10,800	8,740	23,200	7,330	3,420	5,920	2,640	2,220
14	4,010	14,500	8,300	7,620	10,500	8,910	21,300	6,790	3,700	5,620	2,720	1,930
15	3,700	23,500	10,500	7,270	14,600	10,100	20,900	6,260	4,010	5,090	2,610	2,030
16	4,390	32,100	10,800	7,180	12,800	11,800	22,600	5,710	4,390	4,810	3,210	2,000
17	4,470	28,800	16,100	7,140	11,300	12,700	19,400	5,890	4,470	4,690	5,650	1,870
18	4,040	22,300	19,000	9,050	12,100	10,000	17,300	5,620	5,410	4,750	3,880	1,870
19	4,200	18,700	18,200	9,460	10,000	9,360	15,400	5,030	7,200	5,030	3,180	1,680
20	4,120	15,900	15,600	8,070	9,220	9,500	13,500	4,690	6,510	4,550	3,300	1,600
21	3,720	14,400	14,900	6,540	9,150	10,500	12,400	5,000	5,620	3,850	3,900	1,560
22	3,320	13,000	13,600	7,460	9,400	11,100	11,300	4,640	4,920	3,180	2,950	1,530
23	3,850	12,100	13,200	7,840	8,640	11,300	10,400	4,420	4,150	3,520	3,180	1,600
24	3,880	11,200	12,400	7,110	7,650	12,400	10,300	4,250	4,280	3,670	3,110	1,560
25	3,900	10,700	11,100	6,230	7,650	14,600	10,200	3,900	4,670	3,470	2,950	1,460
26	3,930	10,000	10,000	7,170	7,980	16,000	9,570	3,440	4,120	3,600	3,110	1,410
27	3,930	10,100	10,200	6,510	7,520	16,400	8,740	3,420	3,600	3,420	4,420	1,420
28	3,230	9,570	13,800	a6,000	7,520	17,700	7,840	3,420	3,370	2,780	5,000	1,740
29	2,950	8,910	30,200	a6,500		19,600	7,710	3,300	3,900	2,660	4,200	1,850
30	3,770	8,210	48,100	a7,500		20,000	7,650	3,370	3,440	3,620	3,400	1,540
31	5,560		49,200	a7,000		18,300		3,180		4,360	2,740	

Month	Observed					Adjusted for diversion and change in contents ⁄		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	134,690	6,170	2,950	4,345		3,773	0.588	0.68
November	385,120	32,100	6,450	12,840		13,300	2.10	2.34
December	420,860	49,200	6,570	13,580		13,640	2.15	2.48
Calendar year 1940	4,579,050	147,000	2,330	12,510		12,680	2.00	27.20
January	340,170	34,200	6,000	10,970		10,490	1.65	1.90
February	257,570	14,600	5,500	9,199		8,749	1.38	1.44
March	348,830	20,000	6,320	11,250		11,240	1.77	2.04
April	625,710	52,800	7,650	20,860		21,570	3.40	3.79
May	165,540	7,460	3,180	5,340		5,322	.839	.97
June	142,750	8,540	3,130	4,758		4,730	.746	.83
July	140,590	10,200	2,660	4,535		4,061	.640	.74
August	117,000	8,470	2,200	3,774		3,474	.548	.63
September	59,080	2,910	1,410	1,969		1,722	.271	.30
Water year 1940-41	3,137,910	52,800	1,410	8,597		8,481	1.34	18.14

a No gage-height record; discharge computed on basis of records for stations at Belvidere and Trenton.
⁄ Adjusted for change in contents in Lakes Hopatcong and Wallenpaupack and in reservoirs on Mongaup River, and for diversion to Delaware Division Canal.

Delaware River at Trenton, N. J.

Location.- Water-stage recorder, lat. 40°13'18", long. 74°46'38", 200 feet upstream from Calhoun Street Bridge in Trenton, Mercer County, and half a mile upstream from Assunpink Creek. Datum of gage is 7.77 feet above mean sea level, datum of 1929.

Drainage area.- 6,796 square miles.

Records available.- February 1913 to September 1941.

Average discharge.- 28 years, 11,550 second-feet (adjusted for diversion and change in contents in major lakes and reservoirs upstream).

Extremes.- Maximum discharge during year, 56,600 second-feet Apr. 7 (gage height, 6.75 feet); minimum, 1,350 second-feet Sept. 27 (gage height, -0.41 foot). Flow in Delaware & Raritan Canal not included.

1913-41: Maximum discharge, 227,000 second-feet Mar. 19, 1936 (gage height, 16.66 feet); minimum, 1,220 second-feet Sept. 18, 1932. Flow in Trenton power race and Delaware & Raritan Canal not included.

Maximum stage known, 22.8 feet Mar. 8, 1904 (ice jam), from floodmark.

Revisions: The maximum discharge for the water year 1940 has been revised to 151,600 second-feet Apr. 1, 1940 (gage height, 12.85 feet), superseding figure published in report for 1939-40.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,380	9,270	3,640	4,500	3,400	4,600	142,900	18,000	20,500	11,100	4,600	20,200
2	4,150	12,300	3,580	4,000	3,200	4,420	107,000	17,500	27,500	9,220	4,350	42,000
3	4,360	14,100	3,610	4,000	3,200	4,730	62,200	18,900	24,900	9,810	4,070	34,300
4	5,260	11,200	3,870	4,000	3,400	24,700	54,700	19,700	22,000	9,580	3,660	21,800
5	5,490	9,830	4,080	3,800	3,400	24,000	56,100	18,200	18,800	8,260	3,430	15,400
6	5,490	9,650	4,820	3,400	3,400	13,200	60,800	16,500	16,400	7,270	2,810	11,700
7	4,710	10,400	5,260	3,600	3,400	10,900	51,000	14,700	14,600	6,520	2,900	9,520
8	4,080	10,500	4,820	4,000	3,400	9,750	51,200	13,600	12,900	5,870	3,660	7,990
9	3,680	9,580	4,420	3,600	3,400	9,220	79,800	12,700	11,500	5,380	3,800	7,080
10	3,320	9,520	4,180	3,400	3,600	8,710	97,800	12,200	12,700	5,380	3,530	7,180
11	3,130	9,770	4,180	3,200	6,000	7,420	66,900	11,400	12,800	5,380	3,340	6,940
12	3,380	8,680	4,110	3,200	5,500	6,560	52,000	10,500	12,500	5,540	3,370	6,840
13	3,070	8,110	4,670	3,400	5,000	6,430	56,500	9,460	11,500	6,040	2,780	6,290
14	2,970	8,560	4,500	3,800	4,600	6 980	55,400	8,930	10,700	6,660	2,560	5,870
15	2,440	7,840	4,360	8,500	4,400	56,200	43,200	8,870	9,640	5,990	3,140	5,420
16	2,330	7,220	4,220	9,000	4,400	33,500	35,900	9,110	8,760	5,340	3,180	4,960
17	2,360	6,500	3,910	7,500	4,800	21,600	32,000	11,400	7,830	4,960	3,110	4,530
18	2,090	6,060	3,810	6,500	4,800	20,600	28,800	17,800	7,130	4,670	3,140	4,380
19	2,440	5,860	3,940	5,500	4,800	20,800	29,000	17,400	7,270	4,350	3,270	4,420
20	2,730	5,530	4,420	4,800	6,000	22,600	41,400	14,800	7,030	4,320	2,960	4,140
21	2,330	5,260	7,120	4,600	7,000	23,800	51,400	21,800	6,660	4,350	2,530	4,140
22	2,020	5,380	12,700	4,400	6,500	24,700	64,700	20,100	5,990	3,830	2,960	4,100
23	2,350	5,260	14,900	4,800	6,000	21,800	56,500	18,500	5,620	3,600	2,870	3,970
24	3,190	4,750	11,200	4,800	6,000	17,800	44,400	17,700	5,420	3,500	2,720	3,760
25	4,040	4,250	9,580	4,600	5,790	15,600	36,900	16,400	5,740	4,240	2,780	4,420
26	3,910	4,110	7,320	4,400	5,270	13,400	31,400	16,600	7,470	5,310	2,960	7,130
27	3,610	4,110	6,500	4,000	4,960	12,600	27,100	18,200	9,520	4,820	2,750	6,290
28	3,540	4,080	7,000	3,800	4,560	12,400	23,400	21,400	8,930	4,640	3,270	5,190
29	4,770	3,810	6,500	4,000	4,420	15,500	20,800	20,600	8,540	4,040	5,520	4,740
30	6,280	3,910	6,000	3,800		15,400	19,000	18,500	9,340	3,900	6,120	4,350
31	9,030		5,500	3,600		51,400		19,600		4,140	5,420	

Month	Observed					Adjusted for diversion and change in contents ✓		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	117,930	9,030	2,020	3,804		3,567	0.525	0.61
November	225,400	14,100	3,810	7,513		7,620	1.12	1.25
December	178,720	14,900	3,580	5,765		5,766	.848	.98
Calendar year 1939	3,770,070	54,500	1,480	10,330		10,280	1.51	20.53
January	140,500	9,000	3,200	4,532		4,515	.664	.77
February	134,600	7,000	3,200	4,641		4,787	.704	.76
March	541,320	56,200	4,420	17,460		18,900	2.78	3.20
April	1,580,200	142,900	19,000	52,670		54,450	8.01	8.94
May	491,070	21,800	8,870	15,840		16,040	2.36	2.72
June	350,190	27,500	5,420	11,670		11,570	1.70	1.90
July	178,010	11,100	3,500	5,742		5,377	.791	.91
August	107,560	6,120	2,530	3,470		2,789	.410	.47
September	279,050	42,000	3,760	9,302		9,618	1.42	1.58
Water year 1939-40	4,324,550	142,900	2,020	11,820		12,030	1.77	24.09

Peak discharge.- Mar. 15 (3 p.m.) 76,500 sec.-ft.; Apr. 1 (4 p.m.) 151,600 sec.-ft.; Apr. 10 (5:30 a.m.) 106,700 sec.-ft.

✓ Adjusted for change in contents in Lakes Wallenpaupack and Hopatcong and reservoirs on Mongaup River and for diversion to Delaware and Raritan Canal.

Note.- Stage-discharge relation affected by ice Dec. 25 to Feb. 28.

Delaware River at Trenton, N. J.

(Continued)

Remarks.- Records excellent except those for periods of ice effect, which are fair. Water diverted upstream to Delaware & Raritan Canal for navigation. Flow regulated by Lakes Hopatcong and Wallenpaupack and reservoirs on Mongaup River (combined capacity, 13,100,000,000 cubic feet).

Cooperation.- Records furnished by U. S. Geological Survey, Trenton, N. J.

Revisions.- Revised figures of discharge for the water year 1940, superseding those published in report for 1939-1940, are given herein.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,040	6,470	8,930	35,100	7,370	b6,600	18,200	7,470	3,240	4,000	5,740	3,050
2	4,070	8,610	9,460	28,800	6,890	b6,600	21,500	7,080	3,340	3,930	5,660	2,780
3	5,040	12,100	8,870	24,300	6,660	7,030	24,900	6,380	3,970	4,850	7,190	2,450
4	5,080	15,800	7,830	22,000	6,080	7,680	27,500	6,160	4,210	5,790	7,580	2,320
5	5,580	13,800	7,080	19,600	5,950	b9,520	31,100	5,620	4,670	5,000	5,660	2,220
6	5,110	11,500	7,270	16,400	6,340	9,690	40,600	5,460	6,940	4,530	4,960	2,290
7	4,490	9,640	7,130	14,700	7,700	11,400	53,000	5,830	9,400	4,490	4,140	2,720
8	4,140	8,870	7,080	12,900	15,000	b10,000	47,900	6,120	7,940	4,420	3,800	2,990
9	4,320	8,320	8,050	11,600	12,900	8,990	38,000	6,040	6,340	10,800	3,180	2,400
10	5,830	7,470	7,680	11,200	12,300	8,710	32,600	6,210	5,230	8,820	2,810	2,220
11	6,430	6,890	7,780	11,000	12,400	9,520	29,200	6,610	4,420	6,700	2,700	2,120
12	5,950	6,980	7,780	10,000	12,600	11,000	26,600	7,130	4,000	5,660	2,500	2,470
13	5,310	11,600	7,990	9,580	12,100	11,000	24,400	7,580	4,000	6,290	2,370	2,400
14	4,710	16,100	8,870	8,820	11,300	11,200	22,400	7,180	4,350	6,380	2,870	2,140
15	4,140	27,400	9,640	b7,800	16,000	12,100	21,000	6,660	4,240	5,740	2,900	1,980
16	3,900	32,500	12,200	b7,000	15,000	15,500	22,900	6,160	4,350	5,230	2,900	2,020
17	4,710	31,900	20,600	8,050	12,300	b15,000	20,900	5,790	4,890	5,000	4,560	1,980
18	4,380	24,700	19,800	9,870	b11,000	b10,000	18,200	5,910	5,340	5,080	5,040	1,870
19	4,280	20,600	20,200	10,900	b10,000	b9,500	16,600	5,420	7,830	5,190	3,930	1,850
20	4,380	17,600	17,000	b8,500	b9,500	10,400	14,700	4,960	7,270	5,150	3,530	1,650
21	4,180	15,600	15,800	b7,000	b9,000	11,000	13,400	4,930	6,290	4,600	3,730	1,610
22	3,800	14,200	14,400	7,220	9,690	11,600	12,000	5,080	5,420	3,900	3,900	1,570
23	3,560	13,200	13,900	8,320	9,520	12,400	11,100	4,740	4,780	3,300	3,140	1,510
24	4,070	12,200	13,000	8,990	7,990	12,800	11,000	4,420	4,180	3,800	3,370	1,570
25	4,070	11,700	11,800	7,990	7,780	14,700	10,800	4,320	4,740	3,800	3,560	1,550
26	4,040	10,900	10,700	7,320	8,050	16,900	10,300	3,870	4,490	3,560	4,140	1,450
27	4,070	11,000	10,900	7,580	7,880	17,200	9,520	3,600	4,000	3,630	4,740	1,390
28	4,000	10,900	18,800	6,470	b7,000	18,200	8,430	3,630	3,560	3,530	5,340	1,410
29	3,270	9,810	33,300	6,560		19,800	7,730	3,470	3,600	2,930	5,000	1,650
30	3,300	9,280	49,600	7,990		20,800	7,830	3,430	4,000	3,250	4,240	1,760
31	4,670		48,500	6,840		19,700		3,430		4,960	3,470	

Month	Observed					Adjusted for diversion and change in contents ✓		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	138,920	6,430	3,270	4,481		3,889	0.572	0.66
November	417,640	32,500	6,470	13,920		14,410	2.12	2.36
December	451,940	49,600	7,080	14,580		14,660	2.16	2.49
Calendar year 1940	4,811,000	142,900	2,530	13,140		13,360	1.97	26.76
January	370,400	35,100	6,470	11,950		11,500	1.69	1.95
February	276,300	18,000	5,950	9,868		9,478	1.39	1.45
March	376,540	20,800	6,600	12,150		12,200	1.80	2.08
April	654,310	53,000	7,730	21,810		22,620	3.33	3.72
May	170,690	7,580	3,430	5,506		5,533	.814	.94
June	151,030	9,400	3,240	5,034		5,011	.737	.82
July	154,310	10,800	2,930	4,978		4,498	.662	.76
August	128,650	7,580	2,370	4,150		3,855	.567	.65
September	61,390	3,050	1,390	2,046		1,764	.260	.29
Water year 1940-41	3,352,120	53,000	1,390	9,184		9,095	1.34	18.17

b Stage-discharge relation affected by ice.

✓ Adjusted for change in contents in Lakes Hopatcong and Wallenpaupack and reservoirs on Mongaup River and for diversion in Delaware & Raritan Canal.

Lackawaxen River at Hawley, Pa.

Location.- Water-stage recorder, lat. 41°28'30", long. 75°10'05", at Hawley, Wayne County, 300 feet downstream from Wallenpaupack Creek and 1,000 feet downstream from highway bridge and former site of gaging station. Datum of gage is 868.74 feet above mean sea level (unadjusted).
Drainage area.- 290 square miles (not including that of Wallenpaupack Creek, which is 228 square miles, and flow from which is diverted around station to hydroelectric plant downstream).
Records available.- August 1938 to September 1941 in reports of U. S. Geological Survey. July 1908 to December 1919, August 1938 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 11 years (1909-12, 1913-18, 1938-41), 418 second-feet.
Extremes.- Maximum discharge during year, 6,150 second-feet Apr. 6 (gage height, 6.33 feet); minimum, 25 second-feet Sept. 15 (gage height, 1.25 feet); minimum daily, 26 second-feet Sept. 15.
1908-19, 1938-41: Maximum discharge, 21,400 second-feet Mar. 31, 1940 (gage height, 9.68 feet), from rating curve extended above 6,000 second-feet; minimum daily, 7 second-feet Aug. 20, 1911.
Maximum stage known, about 13.9 feet, from floodmarks, Mar. 18, 1936 (discharge not determined.
Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	393	328	1,130	200	230	1,570	176	126	94	a190	38
2	94	1,520	317	884	200	220	2,250	164	164	270	a150	40
3	335	1,700	289	775	190	220	2,110	146	120	139	a115	44
4	243	950	191	724	180	400	1,930	136	134	136	a90	45
5	171	675	260	591	170	700	2,020	146	848	149	71	45
6	136	570	250	520	160	570	5,270	164	757	117	64	44
7	130	472	250	430	190	450	3,350	146	415	106	59	39
8	420	393	270	370	700	400	1,930	172	279	117	52	28
9	435	345	280	350	620	390	1,480	236	208	112	49	38
10	279	306	270	330	460	370	1,210	631	164	90	39	39
11	221	284	280	320	400	350	1,010	363	143	77	45	43
12	187	436	*306	290	370	330	860	264	120	96	51	41
13	168	570	503	280	360	300	745	221	126	230	45	42
14	149	532	551	250	350	290	710	195	160	143	43	33
15	143	1,940	382	240	430	300	675	172	160	109	48	26
16	140	1,370	487	240	390	350	570	160	183	90	68	36
17	133	892	1,040	250	370	380	542	160	204	85	59	37
18	123	738	705	270	350	370	493	168	358	98	53	39
19	117	605	554	280	330	*360	453	143	295	86	54	39
20	115	549	507	270	320	350	405	130	208	81	53	39
21	103	493	528	260	310	370	345	117	160	72	50	37
22	103	453	542	260	310	410	306	109	133	67	47	40
23	101	435	493	270	300	520	284	103	120	61	46	40
24	98	411	411	260	290	650	334	93	144	59	55	40
25	95	393	399	250	290	800	306	86	136	56	63	41
26	101	334	399	240	280	956	274	84	103	53	149	41
27	98	311	686	240	270	1,200	249	76	88	39	115	37
28	90	363	2,090	240	250	1,530	230	90	77	49	83	36
29	86	339	2,900	*240		1,530	208	111	77	68	60	35
30	331	328	2,820	220		1,140	191	94	79	91	50	37
31	556		1,620	210		1,080		77		a240	37	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,599	556	86	181	0.624	0.72
November	19,100	1,940	284	637	2.30	2.45
December	20,908	2,900	191	674	2.32	2.68
Calendar year 1940	219,200	18,000	46	599	2.07	28.11
January	11,484	1,130	210	370	1.28	1.47
February	9,030	700	160	322	1.11	1.16
March	17,516	1,530	220	565	1.95	2.25
April	32,310	5,270	191	1,077	3.71	4.14
May	5,133	631	76	166	.572	.66
June	6,289	848	77	210	.724	.81
July	3,280	270	39	106	.366	.42
August	2,133	190	35	68.8	.237	.27
September	1,159	45	26	38.6	.133	.15
Water year 1940-41	133,941	5,270	26	367	1.27	17.18

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of one discharge measurement and records for nearby stations.
Note.- Stage-discharge relation affected by ice Dec. 5-11, Jan. 6 to Mar. 25.

Wallenpaupack Creek at Wilsonville, Pa.

Location.- At lower end of penstock of hydroelectric plant of Pennsylvania Power & Light Co., at Kimble, 3 miles east of dam that is at lat. 41°27'35", long. 75°11'10", at Wilsonville, Wayne County, and 1 1/4 miles south of Hawley.
Drainage area.- 228 square miles.
Records available.- October 1918 to September 1921, June 1926 to September 1941 in reports of U. S. Geological Survey. July 1908 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 25 years (1913-22, 1925-41), 367 second-feet (adjusted for change in contents in Lake Wallenpaupack).
Remarks.- Records good. Figures of daily discharge computed from records of output of generators and represent flow through hydroelectric plant. No discharge over spillway during year. Flow regulated by storage in Lake Wallenpaupack (capacity, 215,500 acre-feet).
Cooperation.- Records of hourly load, operation of power plant, and water surface elevations in lake and tailrace furnished by Pennsylvania Power & Light Co. in connection with a Federal Power Commission project.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	713	144	0	0	209	151	668	220	0	874	739	0
2	725	19	113	661	0	149	791	399	224	705	0	28
3	128	0	253	690	833	882	450	14	215	199	13	65
4	128	297	418	151	879	878	439	0	347	0	499	670
5	52	11	632	15	769	720	431	456	205	0	426	715
6	0	241	191	476	784	519	4.1	450	107	0	37	296
7	834	259	80	532	850	703	507	447	0	83	4.8	0
8	815	141	0	517	126	65	375	293	0	240	116	151
9	842	54	297	690	0	0	473	398	127	379	0	505
10	832	0	300	441	791	537	303	0	112	290	0	295
11	708	16	242	50	895	601	102	0	50	481	466	0
12	67	317	404	0	622	689	15	477	197	49	579	0
13	0	198	163	710	729	550	0	442	281	0	522	0
14	851	396	71	691	733	408	158	289	20	337	501	0
15	827	120	0	722	93	16	544	151	0	296	253	143
16	651	47	613	743	74	0	538	359	24	363	0	0
17	851	0	335	664	771	544	448	46	272	733	0	38
18	827	161	403	737	499	462	421	0	104	795	228	0
19	541	82	475	41	645	421	234	505	95	440	541	57
20	280	190	481	455	670	543	116	344	247	41	177	82
21	817	70	105	721	824	612	518	233	0	700	688	0
22	831	48	0	167	80	83	549	222	0	680	750	0
23	853	93	325	544	0	13	324	114	208	690	0	0
24	866	0	50	642	646	691	571	0	216	722	0	38
25	885	161	0	86	587	639	471	0	168	851	623	278
26	210	600	185	0	648	581	1.9	0	451	218	866	572
27	107	220	303	906	644	623	3.2	0	1,040	164	617	156
28	770	55	238	904	735	463	494	0	508	808	129	50
29	833	199	0	704	0	105	565	32	98	748	56	355
30	862	147	543	805		22	479	92	794	785	0	333
31	816		151	774		520		0		753	0	

Month	Observed				Adjusted for change in reservoir contents /		
	Second-foot-days	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches
October	18,522	885	0	597	48	0.211	0.24
November	4,286	600	0	143	521	2.29	2.56
December	7,371	632	0	238	377	1.65	1.90
Calendar year 1940	115,898.5	1,700	0	317	439	1.93	26.19
January	15,239	906	0	492	216	.947	1.09
February	15,136	895	0	541	135	.592	.62
March	13,190	882	0	425	328	1.44	1.66
April	10,993.2	791	0	366	869	3.81	4.25
May	5,983	505	0	193	137	.601	.70
June	6,110	1,040	0	204	166	.728	.81
July	13,424	874	0	433	-30	-.132	-.15
August	8,830.8	866	0	285	-14	-.061	-.07
September	4,827	715	0	161	-49	-.215	-.24
Water year 1940-41	123,912.0	1,040	0	339	224	.982	13.37

/ Adjusted for change in contents in Lake Wallenpaupack but not for evaporation or seepage.
Note.- Negative values indicate that evaporation and seepage from reservoir exceeded natural flow.

Bushkill Creek at Shoemakers, Pa.

Location.- Water-stage recorder, lat. 41°05'15", long. 75°02'20", at highway bridge three-quarters of a mile northwest of Shoemakers, Monroe County, and 2 miles southwest of Bushkill. Datum of gage is 421.13 feet above mean sea level (unadjusted).

Drainage area.- 117 square miles.

Records available.- October 1918 to September 1920, October 1931 to September 1941 in reports of U. S. Geological Survey. September 1908 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 29 years (1908-16, 1920-41), 233 second-feet.

Extremes.- Maximum discharge during year, 1,220 second-feet Apr. 6 (gage height, 3.74 feet); minimum, 10 second-feet Sept. 30 (gage height, 1.05 feet).

1908-41: Maximum discharge, 3,910 second-feet July 24, 1920 (gage height, 7.2 feet, from graph based on gage readings), from rating curve extended above 1,600 second-feet; minimum observed, 4 second-feet Sept. 21, 26, 1932 (gage height, 0.90 foot).

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	174	200	500	115	180	558	132	76	101	98	33
2	82	311	191	442	110	170	682	127	98	86	88	28
3	105	358	174	406	110	160	728	114	79	65	67	23
4	103	305	150	381	105	170	714	111	92	69	55	23
5	98	275	140	333	100	230	760	106	292	81	49	23
6	92	251	130	301	100	220	1,080	106	286	67	44	23
7	86	222	130	268	110	200	1,080	103	215	67	38	22
8	94	203	140	265	160	190	914	116	174	853	35	19
9	105	188	150	268	250	180	781	124	143	521	32	18
10	98	177	140	244	200	180	669	124	124	301	29	18
11	92	174	130	228	180	170	558	106	98	225	26	18
12	86	271	130	220	*160	160	477	103	109	203	28	18
13	82	337	154	200	170	150	411	98	86	225	28	17
14	78	392	168	190	200	150	363	93	106	200	25	15
15	72	754	146	180	300	180	329	91	103	174	24	14
16	70	714	183	180	270	220	301	91	119	154	202	14
17	65	617	301	190	250	250	286	93	116	154	119	14
18	63	520	*261	190	230	220	272	88	327	152	71	13
19	61	442	237	180	220	210	254	79	275	135	63	12
20	61	395	225	160	230	200	234	81	197	124	71	12
21	59	354	222	150	220	190	212	79	160	103	61	12
22	56	325	222	150	220	200	188	76	132	88	53	12
23	54	298	215	160	220	210	177	74	116	79	46	12
24	54	283	197	150	210	220	203	83	111	74	43	12
25	54	272	194	140	200	254	194	65	98	65	47	12
26	54	251	200	140	200	283	180	59	81	59	76	12
27	54	241	231	135	190	333	171	63	69	53	76	12
28	50	228	386	130	180	400	157	59	63	47	57	11
29	50	212	578	130		448	149	65	59	51	46	11
30	130	203	650	120		442	141	55	75	55	38	10
31	200		572	120		448		49		76	35	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,490	200	50	80.3	0.686	0.79
November	9,747	754	174	325	2.78	3.10
December	7,147	650	130	231	1.97	2.27
Calendar year 1940	96,462	2,340	17	264	2.26	30.66
January	6,851	500	120	221	1.89	2.18
February	5,210	300	100	186	1.59	1.66
March	7,218	448	150	233	1.99	2.29
April	13,223	1,080	141	441	3.77	4.20
May	2,813	132	49	90.7	.775	.89
June	4,079	327	59	136	1.16	1.30
July	4,707	853	47	152	1.30	1.50
August	1,770	202	24	57.1	.488	.56
September	493	33	10	16.4	.140	.16
Water year 1940-41	65,748	1,080	10	180	1.54	20.90

Peak discharge.- Apr. 6 (10 p.m.) 1,220 sec.-ft.; July 8 (10 a.m.) 1,080 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-12, Jan. 12 to Mar. 24.

Lehigh River at Tannery, Pa.

Location.- Water-stage recorder, lat. 41°02'25", long. 75°45'50", 600 feet upstream from highway bridge at Tannery, Carbon County, and 1¼ miles upstream from Black Creek. Datum of gage is 1,041.80 feet above mean sea level, datum of 1929.

Drainage area.- 322 square miles.

Records available.- October 1919 to September 1921, October 1928 to September 1941 in reports of U. S. Geological Survey. June 1914 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1914-15, 1919-26, 1927-41), 662 second-feet.

Extremes.- Maximum discharge during year, 3,480 second-feet Apr. 6 (gage height, 5.60 feet); minimum, 37 second-feet Aug. 7 (gage height, 1.29 feet); minimum daily, 84 second-feet Sept. 27, 30.
1914-41: Maximum discharge, 21,800 second-feet Mar. 12, 1936 (gage height, 13.34 feet); minimum, 0.9 second-foot Sept. 28, 1936 (gage height, 1.07 foot); minimum daily, 7.2 second-feet Aug. 5, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by power plants upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	259	650	541	1,070	330	320	1,490	343	422	438	241	228
2	264	1,100	527	922	340	330	2,010	332	488	375	219	164
3	567	1,360	480	850	330	360	2,110	332	364	302	198	183
4	612	1,030	440	810	320	420	2,060	332	366	370	156	171
5	457	874	470	674	310	560	2,210	327	1,220	415	143	175
6	375	786	440	620	300	500	3,240	343	1,270	337	126	164
7	348	682	440	560	320	430	3,010	316	882	312	94	146
8	662	612	470	530	500	380	2,260	437	635	813	106	132
9	658	541	482	510	602	370	1,810	432	488	762	103	129
10	548	521	500	510	582	360	1,540	469	392	575	101	136
11	469	494	444	510	*539	360	1,360	438	332	476	101	156
12	432	1,010	421	500	506	350	1,180	375	297	438	152	134
13	398	1,230	607	480	451	360	1,070	337	307	534	123	130
14	381	1,180	698	460	381	370	970	302	348	541	109	117
15	398	2,060	582	450	494	380	882	282	398	415	127	117
16	386	1,810	664	500	560	410	786	317	582	327	1,520	90
17	381	1,400	*1,220	560	500	480	810	354	623	292	954	103
18	359	1,190	1,030	440	460	440	794	332	930	287	598	101
19	317	1,030	874	430	410	420	706	297	738	264	494	95
20	312	914	810	420	370	420	628	273	575	241	548	93
21	297	842	794	410	360	440	548	240	463	219	403	88
22	282	770	762	410	370	470	507	230	375	202	313	90
23	284	706	698	420	370	560	476	259	450	194	273	88
24	275	698	612	460	380	706	534	287	752	186	241	88
25	268	674	590	450	370	850	541	250	548	175	281	86
26	277	612	582	400	380	874	488	223	415	171	480	86
27	268	612	690	350	360	1,050	444	202	332	156	598	84
28	254	605	1,010	350	340	1,260	403	259	282	162	444	86
29	241	561	1,360	350		1,360	381	241	264	219	354	86
30	510	*541	1,540	340		1,190	359	211	346	223	297	84
31	794		1,300	330		1,160		179		282	259	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12,333	794	241	398	1.24	1.42
November	27,095	2,060	494	903	2.80	3.13
December	22,078	1,540	421	712	2.21	2.55
Calendar year 1940	259,234	9,700	109	708	2.20	29.93
January	16,076	1,070	330	519	1.61	1.86
February	11,535	602	300	412	1.28	1.33
March	17,940	1,360	320	579	1.80	2.07
April	35,607	3,240	359	1,187	3.69	4.11
May	9,551	469	179	308	.957	1.10
June	15,884	1,270	264	529	1.64	1.83
July	10,703	813	156	345	1.07	1.24
August	10,156	1,520	94	328	1.02	1.17
September	3,630	228	84	121	.376	.42
Water year 1940-41	192,588	3,240	84	528	1.64	22.23

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-7, Jan. 6 to Feb. 8, Feb. 16 to Mar. 23.

Lehigh River at Bethlehem, Pa.

Location.- Water-stage recorder, lat. 40°37'05", long. 75°21'55", 1,650 feet upstream from Minsi Trail Bridge at Bethlehem, Northampton County, and 2,400 feet downstream from Monocacy Creek. Datum of gage is 208.60 feet above mean sea level, datum of 1929.
Drainage area.- 1,280 square miles.
Records available.- September 1902 to February 1905, April 1909 to December 1913, October 1918 to September 1921, October 1928 to September 1941 in reports of U. S. Geological Survey. September 1902 to February 1905, April 1909 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1928 obtained at New Street Bridge, 4,130 feet upstream.
Average discharge.- 12 years (1929-41), 2,182 second-feet.
Extremes.- Maximum discharge during year, 8,210 second-feet Apr. 6 (gage height, 5.68 feet); minimum, 323 second-feet Sept. 27 (gage height, 1.96 feet); minimum daily, 406 second-feet Sept. 27, 28.
1902-5, 1909-41: Maximum discharge, 64,800 second-feet Aug. 24, 1933 (gage height, 18.70 feet); minimum, 160 second-feet Oct. 15, 1910 (gage height, 1.33 feet, former site and datum).
Maximum stage known, 24.9 feet, from floodmark, former site and datum, Feb. 28, 1902 (discharge, about 85,000 second-feet).
Extremes do not include flow in Lehigh Canal.
Remarks.- Records good. Flow regulated at low stages by power plants upstream. Daily and monthly records include flow of Lehigh Canal.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	906	1,340	1,640	3,500	1,120	988	3,620	1,270	773	1,140	1,250	860
2	952	2,100	1,770	3,120	1,130	1,270	4,420	1,230	1,140	1,190	998	815
3	1,150	3,270	1,630	3,030	1,170	1,460	4,690	1,160	1,080	1,040	881	763
4	1,330	2,470	1,370	2,870	1,070	1,830	4,570	1,150	1,040	1,100	859	734
5	1,220	2,060	1,460	2,520	1,010	1,890	4,860	1,170	1,490	1,220	785	736
6	1,050	1,860	1,400	2,170	988	1,860	7,580	1,150	2,350	1,110	744	726
7	1,010	1,700	1,350	2,080	1,390	1,600	7,570	1,120	1,770	1,060	694	678
8	1,100	1,600	1,500	1,920	2,780	1,400	6,320	1,220	1,390	3,050	674	666
9	1,420	1,450	1,530	1,860	2,020	1,500	5,280	1,360	1,190	3,130	655	628
10	1,260	1,360	1,400	1,860	1,610	1,490	4,570	1,300	1,030	2,030	636	638
11	1,150	1,350	1,370	1,720	1,490	1,500	3,900	1,280	954	1,670	616	686
12	1,070	2,520	1,340	1,600	1,530	1,440	3,770	1,220	901	1,560	673	696
13	1,030	3,880	1,400	1,640	1,540	1,590	3,140	1,100	966	1,930	752	598
14	1,000	3,620	1,700	1,430	1,640	1,730	2,890	1,090	954	1,700	654	580
15	962	6,700	1,600	1,340	3,990	2,270	2,640	1,020	975	1,480	686	608
16	961	6,750	1,940	1,350	2,620	3,290	2,430	1,020	1,180	1,300	1,490	561
17	941	5,260	4,140	1,500	2,040	3,700	2,310	1,070	1,270	1,310	2,010	572
18	964	4,280	3,750	1,700	1,780	2,020	2,260	1,100	1,580	1,290	1,370	525
19	913	3,500	3,170	1,640	1,410	1,840	2,130	1,040	1,610	1,130	1,170	525
20	882	3,120	2,850	1,300	1,400	1,960	1,970	959	1,300	1,060	1,220	491
21	881	2,800	2,650	1,190	1,430	2,370	1,870	939	1,130	1,000	1,100	492
22	860	2,520	2,500	1,300	1,460	2,540	1,690	930	1,020	942	943	525
23	837	2,310	2,310	1,530	1,430	2,920	1,650	950	977	910	841	506
24	837	2,220	2,090	1,530	1,350	3,260	1,820	920	1,470	890	799	497
25	835	2,220	1,930	1,220	1,440	3,380	1,790	889	1,380	858	973	479
26	825	1,970	1,920	1,340	1,480	3,500	1,610	876	1,140	839	1,170	479
27	806	2,000	1,950	1,340	1,370	3,750	1,550	855	1,000	798	1,440	437
28	803	1,920	2,910	1,220	1,430	4,010	1,450	834	908	806	1,300	439
29	778	1,770	3,880	1,250		4,140	1,380	855	846	938	1,060	479
30	972	1,670	4,280	1,120		3,880	1,320	802	918	1,020	967	454
31	1,380		3,880	1,130		3,620		752		1,350	894	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	31,085	1,380	778	1,003	0.784	0.90
November	81,590	6,750	1,340	2,720	2.12	2.37
December	68,610	4,280	1,340	2,213	1.73	1.99
Calendar year 1940	881,813	26,600	546	2,409	1.88	25.62
January	54,320	3,500	1,120	1,752	1.37	1.58
February	45,118	3,990	988	1,611	1.26	1.31
March	73,998	4,140	988	23,870	1.86	2.15
April	97,050	7,580	1,320	3,235	2.53	2.82
May	32,631	1,360	752	1,053	.823	.95
June	35,732	2,350	773	1,191	.930	1.04
July	40,851	3,130	798	1,318	1.03	1.19
August	30,304	2,010	616	978	.764	.88
September	17,873	860	437	596	.466	.52
Water year 1940-41	609,162	7,580	437	1,669	1.30	17.70

Pohopoco Creek near Parryville, Pa.

Location.- Water-stage recorder, lat. 40°50'00", long. 75°40'40", 1 mile downstream from Bull Run, 1 1/4 miles north of Parryville, Carbon County, and 2 1/2 miles upstream from mouth. Datum of gage is 459.19 feet above mean sea level (unadjusted).

Drainage area.- 110 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 2,500 second-feet July 8 (gage height, 4.85 feet), from rating curve extended above 300 second-feet; minimum, 32 second-feet Sept. 29 (gage height, 0.88 foot); minimum daily, 46 second-feet Sept. 29, 30.

Remarks.- Records good except those above 400 second-feet and those for periods of ice effect, all of which are fair. Some regulation by storage reservoirs and small mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	82	166	295	86	110	291	97	73	97	145	103
2	95	222	161	280	86	105	307	93	64	93	130	95
3	120	181	150	272	86	100	311	91	54	86	118	89
4	101	147	135	268	82	160	295	88	64	101	112	89
5	91	142	140	257	74	*150	336	88	114	101	108	93
6	89	135	135	240	78	140	462	86	88	86	105	93
7	93	128	130	220	100	135	428	84	64	93	101	86
8	123	125	135	200	190	120	380	91	60	1,360	97	84
9	99	118	132	185	160	125	328	84	56	806	93	84
10	91	116	128	175	140	110	295	88	52	447	91	84
11	91	120	123	170	125	98	264	80	50	332	88	93
12	89	278	123	170	120	94	239	75	50	307	118	75
13	80	261	145	150	125	90	219	75	58	284	91	71
14	82	292	142	140	*160	96	209	71	64	225	80	68
15	82	634	135	130	260	125	193	70	64	199	88	66
16	80	593	193	130	220	178	178	73	73	184	268	64
17	86	483	311	140	190	199	169	75	66	259	137	64
18	78	390	261	140	160	178	158	70	93	196	103	66
19	78	332	*254	135	145	160	150	64	71	172	114	61
20	78	299	246	120	150	150	142	64	63	158	116	60
21	78	276	239	110	135	175	132	61	61	145	95	58
22	78	257	225	110	125	216	125	63	60	137	88	58
23	73	236	209	115	120	280	123	61	80	132	89	54
24	78	229	196	115	115	320	140	58	132	128	82	52
25	75	209	190	110	115	303	123	55	80	125	147	52
26	82	190	187	100	115	320	114	55	70	120	175	50
27	75	193	190	98	115	358	112	55	66	112	175	52
28	71	175	258	98	115	362	105	55	64	120	137	48
29	70	164	288	95		354	101	52	63	154	120	46
30	116	164	315	90		315	99	50	82	164	114	46
31	101		299	92		295		48		169	108	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,720	123	70	87.7	0.797	0.92
November	7,171	634	82	239	2.17	2.42
December	5,941	315	123	192	1.75	2.01
Calendar year 1940						
January	4,950	295	90	160	1.45	1.67
February	3,692	260	74	132	1.20	1.25
March	5,921	362	90	191	1.74	2.00
April	6,528	462	99	218	1.98	2.21
May	2,220	97	48	71.6	.651	.75
June	2,099	132	50	70.0	.636	.71
July	7,092	1,360	86	229	2.08	2.40
August	3,633	268	80	117	1.06	1.23
September	2,104	103	46	70.1	.637	.71
Water year 1940-41	54,071	1,360	46	148	1.35	18.28

Peak discharge.- July 8 (8:30 a.m.) 2,500 sec.-ft.; Aug. 16 (8:30 a.m.) 509 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-8, Jan. 6 to Mar. 14, Mar. 19, 20. Discharge computed from staff-gage readings made twice daily Oct. 1 to Nov. 2.

Wild Creek at Hatchery, Pa.

Location.- Water-stage recorder, lat. 40°55'25", long. 75°33'30", at Hatchery, Carbon County, half a mile downstream from Cross Run, 2 1/4 miles upstream from Wild Creek Dam, and 4 miles upstream from mouth.

Drainage area.- 16.6 square miles.

Records available.- February to September 1941.

Extremes.- Maximum discharge during period, 1,000 second-feet July 8 (gage height, 5.50 feet), from rating curve extended above 90 second-feet; minimum, 7.6 second-feet Sept. 21, 25 (gage height, 1.43 feet); minimum daily, 9.0 second-feet Sept. 25, 27-29.

Remarks.- Records good except those prior to Apr. 5, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					b18	a18	67	22	23	13	24	14
2					b18	19	74	22	16	14	22	14
3					b18	18	70	21	14	12	20	14
4					b17	20	64	21	18	16	19	14
5					b16	19	81	21	38	14	19	14
6					b17	18	88	20	22	13	18	14
7					22	17	75	20	17	15	17	13
8					27	19	70	22	16	270	17	12
9					22	17	66	20	14	86	16	12
10					b19	17	62	20	14	61	16	13
11					b17	17	59	19	13	53	15	14
12					b17	18	54	19	14	57	20	12
13					18	17	51	19	16	55	15	11
14					*19	17	49	18	15	46	14	11
15					23	19	47	18	16	40	18	11
16					20	22	45	19	16	42	40	10
17					b19	23	43	18	14	44	19	10
18					b18	21	40	17	15	37	15	10
19					b19	20	38	16	13	35	20	9.7
20					b19	20	36	16	12	33	18	10
21					19	21	33	15	12	31	14	9.3
22					19	23	30	15	12	30	14	9.3
23					19	30	30	14	19	29	14	9.3
24					19	36	34	14	18	27	13	9.3
25					18	41	30	14	13	26	34	9.0
26					18	47	27	14	12	25	29	9.3
27					17	55	26	14	12	24	30	9.0
28					17	63	25	14	11	30	21	9.0
29						64	23	13	11	27	18	9.0
30						61	23	13	12	28	16	10
31						62		12		28	16	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January	529	27	16	18.9	1.14	1.19
February	879	64	17	28.4	1.71	1.97
March	1,460	88	23	48.7	2.93	3.27
April	540	22	12	17.4	1.05	1.21
May	468	38	11	15.6	.940	1.05
June	1,261	270	12	40.7	2.45	2.83
July	601	40	13	19.4	1.17	1.35
August	335.2	14	9.0	11.2	.675	.75
September						
Water year						

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.
Note.- Discharge computed from staff-gage readings made twice daily Feb. 1 to Apr. 4.

Aquashicola Creek at Palmerton, Pa.

Location.- Water-stage recorder, lat. 40°48'20", long. 75°35'55", 1,200 feet upstream from Sixth Street Bridge in Palmerton, Carbon County, and 1 1/4 miles upstream from mouth. Datum of gage is 389.00 feet above mean sea level, datum of 1929.

Drainage area.- 77.0 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge during year, 805 second-feet Nov. 15 (gage height, 4.84 feet); minimum, 6.5 second-feet Sept. 23; minimum daily, 13 second-feet Sept. 30.
1939-41: Maximum discharge, 4,550 second-feet Mar. 15, 1940 (gage height, 10.03 feet), from rating curve extended above 1,700 second-feet; minimum, that of Sept. 23, 1941; minimum daily, that of Sept. 30, 1941.

Remarks.- Records good except those for period of backwater, which are fair. Flow regulated at low stages by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	44	108	222	55	86	211	79	44	44	72	47
2	56	133	110	211	55	82	230	70	41	58	52	42
3	72	140	97	201	55	80	248	66	34	48	45	32
4	55	124	86	189	52	148	236	66	47	75	39	34
5	52	114	89	166	47	135	278	66	91	75	36	39
6	47	106	86	149	50	127	445	65	68	70	31	39
7	50	97	84	135	65	106	519	63	47	70	27	31
8	56	89	89	124	180	93	445	72	39	122	28	31
9	55	84	88	120	117	95	371	70	34	97	26	28
10	48	79	80	116	95	80	315	96	27	84	24	35
11	47	79	79	108	88	80	269	66	26	72	23	45
12	47	211	75	106	83	75	233	68	24	82	38	34
13	45	251	88	97	84	72	209	55	35	103	25	28
14	42	293	84	89	96	77	194	56	39	66	24	28
15	42	687	80	84	253	108	177	53	38	60	27	29
16	42	591	127	84	182	202	163	55	79	53	47	23
17	41	415	262	89	151	251	160	56	60	68	32	23
18	42	309	262	89	129	156	151	58	82	60	26	23
19	39	248	228	88	110	133	146	53	75	55	38	20
20	39	217	206	75	114	128	137	45	61	48	42	22
21	39	192	187	70	98	160	129	45	53	44	27	20
22	39	177	168	70	93	203	118	52	53	41	24	18
23	38	158	146	73	89	269	110	53	66	38	24	17
24	38	151	135	72	88	284	122	47	89	35	22	16
25	38	142	124	70	88	269	99	39	58	42	48	16
26	36	124	120	63	89	280	89	39	48	70	61	16
27	36	129	120	63	89	292	88	37	44	42	73	16
28	36	120	178	63	97	292	84	40	41	45	53	16
29	35	110	206	61		273	80	38	35	53	45	14
30	66	106	228	57		239	77	34	50	68	44	13
31	58		230	58		214		31		70	42	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,424	72	35	45.9	0.596	0.69
November	5,720	687	44	191	2.48	2.76
December	4,250	262	75	137	1.78	2.05
Calendar year 1940	56,190	2,520	22	154	2.00	27.13
January	3,262	222	57	105	1.36	1.58
February	2,792	253	47	99.7	1.29	1.35
March	5,089	292	72	164	2.13	2.46
April	6,133	519	77	204	2.65	2.96
May	1,733	96	31	55.9	.726	.84
June	1,528	91	24	50.9	.661	.74
July	1,958	122	35	63.2	.821	.95
August	1,165	73	22	37.6	.488	.56
September	795	47	13	26.5	.344	.38
Water year 1940-41	35,849	687	13	98.2	1.28	17.32

Peak discharge.- Nov. 15 (3:30 p.m.) 805 sec.-ft.; Mar. 23 (10 p.m.) 371 sec.-ft.; Apr. 7 (9 a.m.) 543 sec.-ft.
Note.- Backwater from moss on control June 1 to Sept. 30; discharge computed on basis of five discharge measurements and gage-heights records.

Tohickon Creek near Pipersville, Pa.

Location.- Water-stage recorder, lat. 40°26'00", long. 75°07'00", at highway bridge 1 1/2 miles northeast of Pipersville, Bucks County, and 4 1/2 miles upstream from mouth. Datum of gage is 258.43 feet above mean sea level (unadjusted).

Drainage area.- 97.4 square miles.

Records available.- July 1935 to September 1941.

Extremes.- Maximum discharge during year, 3,290 second-feet Dec. 16 (gage height, 5.65 feet); minimum, 0.05 second-foot Sept. 29 (gage height, 0.45 foot); minimum daily, 0.1 second-foot Sept. 24, 29.
1935-41: Maximum discharge, 11,000 second-feet Sept. 21, 1938 (gage height, 9.11 feet), from rating curve extended above 3,600 second-feet; minimum, that of Sept. 29, 1941; minimum daily, that of Sept. 24, 29, 1941.

Remarks.- Records good except those for periods of ice effect and those subsequent to Aug. 27, all of which are fair. Regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	30	156	140	50	40	108	19	5.9	9.3	61	20
2	27	612	199	112	46	45	456	18	6.0	8.2	36	15
3	45	515	107	122	43	60	260	15	11	12	33	13
4	41	136	50	259	42	100	159	13	4.6	28	36	9.5
5	31	78	45	150	42	140	698	13	15	32	31	6.3
6	20	56	46	120	41	100	1,280	14	42	19	27	6.1
7	14	42	*44	85	250	80	475	13	30	32	24	1.0
8	14	33	84	52	700	72	241	22	18	24	11	3.4
9	16	26	135	45	300	70	165	39	15	24	22	2.3
10	13	23	108	40	150	72	130	41	10	14	9.1	1.3
11	14	20	80	38	130	190	109	46	8.8	18	8.2	3.9
12	9.8	197	84	35	120	*410	93	30	8.6	10	13	5.8
13	7.0	377	226	32	130	498	82	20	81	21	13	6.6
14	9.2	909	191	30	250	514	74	16	136	10	14	2.7
15	8.2	1,840	90	31	700	756	66	13	65	8.8	13	3.8
16	5.9	425	752	32	300	1,160	56	12	46	7.4	21	5.1
17	5.9	198	1,790	150	130	818	49	12	48	5.7	11	1.7
18	5.7	121	308	400	70	218	44	14	56	9.6	16	.8
19	7.8	85	151	350	38	255	38	14	70	21	10	3.3
20	3.8	68	120	150	40	205	36	14	27	6.8	20	.8
21	8.6	58	108	80	41	281	30	11	17	16	22	.2
22	4.6	51	101	*65	42	300	27	9.6	13	10	18	2.0
23	6.4	44	85	100	41	321	22	19	11	6.6	22	.7
24	4.4	51	67	170	40	322	47	17	11	5.4	9.8	.1
25	6.3	61	55	130	41	332	71	11	5.9	3.5	92	2.5
26	5.1	54	62	94	40	259	52	10	7.2	1.8	174	2.2
27	2.4	74	103	70	39	241	40	8.8	5.7	3.4	197	2.2
28	5.3	105	1,320	60	38	215	33	8.0	6.6	6.6	86	.9
29	5.6	85	955	53		178	28	8.0	4.7	6.6	51	.1
30	9.0	78	472	47		134	22	5.9	6.6	5.9	31	1.8
31	25		243	50		104		7.1		39	24	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	392.0	45	2.4	12.6	0.129	0.15
November	6,452	1,840	20	215	2.21	2.46
December	8,337	1,790	44	269	2.76	3.18
Calendar year 1940	61,770.2	4,160	.4	169	1.74	23.57
January	3,292	400	30	106	1.09	1.26
February	3,894	700	38	139	1.43	1.49
March	8,490	1,160	40	274	2.81	3.24
April	4,991	1,280	22	166	1.70	1.91
May	513.4	46	5.9	16.6	.170	.20
June	792.6	136	4.6	26.4	.271	.30
July	425.6	39	1.8	13.7	.141	.16
August	1,156.1	197	8.2	37.3	.383	.44
September	125.1	20	.1	4.17	.043	.05
Water year 1940-41	38,860.8	1,840	.1	106	1.09	14.84

Peak discharge.- Nov. 15 (1 a.m.) 3,080 sec.-ft.; Dec. 16 (10:30 p.m.) 3,290 sec.-ft.; Dec. 28 (1 p.m.) 3,010 sec.-ft.; Mar. 16 (5 p.m.) 2,140 sec.-ft.; Apr. 5 (10:30 p.m.) 2,190 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-7, Jan. 5 to Mar. 12.

Neshaminy Creek near Langhorne, Pa.

Location.- Water-stage recorder, lat. 40°10'25", long. 74°57'30", at bridge on State Highway 213 half a mile downstream from Mill Creek and 1.7 miles west of Langhorne, Bucks County. Datum of gage is 40.57 feet above mean sea level (unadjusted).

Drainage area.- 210 square miles.

Records available.- October 1934 to September 1941.

Extremes.- Maximum discharge during year, 8,160 second-feet July 30 (gage height, 9.52 feet), from rating curve extended above 2,600 second-feet on basis of contracted-opening determination at gage height, 15.94 feet; minimum, 8.5 second-feet Sept. 27 (gage height, 0.69 foot); minimum daily, 12 second-feet Sept. 27.
1934-41: Maximum discharge, 24,800 second-feet July 23, 1938 (gage height, 15.94 feet), by contracted-opening method; minimum, 6.0 second-feet Sept. 24, 28, 1937; minimum daily, 7.1 second-feet Sept. 24, 1939.
Maximum stage known, 17.3 feet, from floodmarks, Aug. 23, 1933 (discharge, 30,000 second-feet, from rating curve extended above 2,600 second-feet on basis of contracted-opening determination at gage height, 15.94 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	91	234	321	140	85	174	83	33	30	242	46
2	46	702	213	287	130	95	531	78	36	29	174	48
3	86	558	185	360	125	120	394	75	34	287	129	42
4	100	195	151	550	120	400	267	70	52	1,660	110	39
5	62	140	162	356	115	450	726	70	122	407	125	41
6	48	119	*140	250	115	250	2,240	70	334	174	113	42
7	41	100	174	220	1,200	150	851	68	84	504	88	36
8	42	86	226	190	2,610	120	481	87	50	716	86	38
9	55	78	250	180	340	130	386	83	41	241	78	30
10	76	73	189	160	210	270	325	81	35	151	73	31
11	53	65	170	150	190	973	292	70	30	264	70	31
12	43	82	151	140	185	*1,790	263	61	28	421	73	28
13	39	230	174	135	190	1,310	234	64	44	987	68	30
14	39	1,070	222	130	250	1,260	218	52	250	246	61	25
15	35	3,070	158	140	744	1,320	201	50	128	170	67	31
16	34	661	240	150	343	1,370	181	50	73	136	73	28
17	31	373	1,810	500	190	1,120	170	50	64	133	73	23
18	31	292	433	700	130	336	162	57	72	288	65	24
19	31	234	300	671	95	314	151	66	62	177	61	24
20	33	205	263	232	100	284	136	48	39	140	61	28
21	33	197	250	250	105	296	126	36	36	113	57	23
22	38	174	230	*197	110	258	113	34	31	100	54	24
23	35	158	205	347	105	254	110	41	28	91	54	21
24	34	147	181	563	95	242	156	44	30	86	50	17
25	31	166	166	1,140	90	279	158	44	26	83	65	17
26	34	154	166	535	85	279	122	39	23	78	98	15
27	28	764	197	300	82	242	113	34	23	73	360	12
28	31	626	1,280	200	80	242	100	34	20	117	155	20
29	31	308	984	160		234	94	32	19	120	77	14
30	52	254	673	130		209	86	31	27	1,380	59	17
31	177		417	140		181		31		818	50	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,488	177	28	48.0	0.229	0.26
November	11,372	3,070	65	379	1.80	2.01
December	10,594	1,810	140	342	1.63	1.88
Calendar year 1940	107,874	8,110	19	296	1.41	19.11
January	9,784	1,140	130	316	1.50	1.73
February	8,274	2,610	80	296	1.41	1.46
March	14,863	1,790	85	479	2.28	2.63
April	9,561	2,240	86	319	1.52	1.69
May	1,733	87	31	55.9	.266	.31
June	1,874	334	19	62.5	.298	.33
July	10,220	1,660	29	330	1.57	1.81
August	2,969	360	50	95.8	.456	.52
September	843	48	12	28.1	.134	.15
Water year 1940-41	83,575	3,070	12	229	1.09	14.78

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 6-18, Jan. 28 to Feb. 7, Feb. 9-14, Feb. 17 to Mar. 10.

Schuylkill River at Pottstown, Pa.

Location.- Water-stage recorder, lat. 40°14'30", long. 75°39'05", at Hanover Street Bridge in Pottstown, Montgomery County, a third of a mile downstream from Manatawny Creek. Datum of gage is 117.81 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 1,147 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. August 1927 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 14 years, 1,798 second-feet.

Extremes.- Maximum discharge during year, 6,560 second-feet Dec. 16 (gage height, 5.70 feet); minimum, 121 second-feet Sept. 28 (gage height, 0.56 foot); minimum daily, 206 second-feet Sept. 21.
1927-41: Maximum discharge, 44,200 second-feet Aug. 24, 1933 (gage height, 19.2 feet), from rating curve extended above 19,000 second-feet; minimum, 87 second-feet Aug. 13, 1930 (gage height, 0.43 foot); minimum daily, 175 second-feet Sept. 19, 1932.
Maximum stage known, about 21.0 feet Feb. 28, 1902 (discharge, 50,000 second-feet, from rating curve extended above 19,000 second-feet).

Remarks.- Records good. Regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,080	814	1,360	3,120	1,110	1,050	2,340	1,220	481	439	615	380
2	1,530	2,110	1,520	2,830	1,110	1,420	2,760	1,020	518	900	510	354
3	1,330	2,830	1,450	2,830	1,080	1,500	2,480	927	510	1,760	425	330
4	950	2,080	1,180	2,900	1,000	2,380	2,280	866	713	1,640	386	386
5	772	1,820	1,200	2,480	930	2,690	3,060	874	883	1,460	360	380
6	739	1,640	1,230	2,080	950	2,080	4,350	936	1,310	1,050	373	399
7	731	1,470	1,170	2,020	1,770	1,760	3,950	1,040	963	990	347	380
8	772	1,370	1,390	1,760	2,900	1,460	3,340	1,210	747	1,540	347	347
9	1,110	1,270	1,350	1,760	2,340	1,580	3,040	1,220	638	2,070	334	308
10	894	1,160	1,220	1,700	1,700	1,640	2,690	1,040	578	1,290	314	321
11	789	1,110	1,180	1,700	1,470	2,120	2,480	900	548	1,050	284	321
12	764	1,650	1,160	1,540	1,530	2,620	2,280	840	540	972	314	302
13	739	2,280	1,240	1,480	1,700	2,480	2,140	730	688	1,220	314	284
14	739	2,880	1,390	1,340	2,200	2,900	1,950	688	790	900	314	268
15	707	5,000	1,280	1,240	5,640	3,870	1,820	679	747	781	346	236
16	691	4,350	2,480	1,320	4,110	5,380	1,760	688	964	722	488	278
17	691	3,560	5,280	1,570	2,900	5,170	1,700	713	840	688	485	250
18	667	3,340	4,110	2,020	2,280	3,120	1,760	747	1,100	722	360	268
19	659	2,830	3,340	1,760	1,820	2,550	1,820	670	840	670	393	237
20	667	2,480	2,900	1,360	1,760	2,410	1,760	608	704	608	532	273
21	675	2,210	2,620	1,180	1,760	2,830	1,640	585	622	548	460	206
22	659	2,020	2,340	1,180	1,560	2,830	1,580	570	570	495	386	236
23	651	1,820	2,140	f1,580	1,440	3,040	1,540	592	510	510	373	242
24	627	1,760	1,950	f1,880	1,340	3,120	1,760	688	670	491	340	248
25	627	1,820	1,760	f1,440	1,500	3,190	1,700	578	713	460	763	246
26	619	1,540	1,700	1,380	1,700	3,190	1,500	555	585	446	726	232
27	595	1,760	1,700	1,330	1,580	3,120	1,450	548	518	425	978	229
28	595	1,700	2,620	1,120	1,540	3,120	1,360	548	467	406	700	220
29	580	1,460	3,420	1,260		2,970	1,340	495	460	446	510	216
30	790	1,350	3,640	1,180		2,760	1,270	488	425	495	453	218
31	1,040		3,490	1,130		2,480		488		592	399	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	24,479	1,530	580	790	0.689	0.79
November	63,484	5,000	814	2,116	1.84	2.06
December	64,810	5,280	1,160	2,091	1.82	2.10
Calendar year 1940	718,625	20,600	360	1,963	1.71	23.31
January	53,470	3,120	1,120	1,725	1.50	1.73
February	52,720	5,640	930	1,883	1.64	1.71
March	82,830	5,380	1,050	2,672	2.33	2.69
April	64,900	4,350	1,270	2,163	1.89	2.10
May	23,751	1,220	488	766	.668	.77
June	20,642	1,310	425	688	.600	.67
July	26,776	2,070	406	864	.753	.87
August	13,929	978	284	449	.391	.45
September	8,595	399	206	286	.249	.28
Water year 1940-41	500,386	5,640	206	1,371	1.20	16.22

f Discharge based on partial gage-height record.

Schuylkill River at Philadelphia, Pa.

Location.- Water-stage recorder, lat. 39°58'00", long. 75°11'20", just upstream from Fairmount Dam in Philadelphia, Philadelphia County. Datum of gage is that of city of Philadelphia, 5.23 feet above mean sea level (adjustment of 1907).

Drainage area.- 1,893 square miles.

Records available.- January 1898 to December 1912, September 1931 to September 1941 in reports of U. S. Geological Survey. January 1903 to December 1912, September 1931 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 19 years (1903-12, 1931-41), 2,622 second-feet.

Extremes.- Maximum discharge during year, 22,300 second-feet Nov. 15 (gage height, 9.22 feet; no flow over dam at times in September; minimum daily discharge, 10 second-feet Sept. 30.
1898-1912, 1931-41: Maximum discharge, about 92,000 second-feet Mar. 1, 1902 (gage height, about 14.8 feet); no flow over dam at times; minimum daily discharge, that of Sept. 30, 1941.
Maximum stage known, about 17.0 feet Oct. 4, 1869 (discharge, about 127,000 second-feet).

Remarks.- Records good except those below 300 second-feet, which are fair. Flow regulated by storage reservoirs upstream. Water diverted above station by city of Philadelphia not included in records of daily discharge.

Cooperation.- Record of water diverted furnished by city of Philadelphia.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	892	1,370	2,090	g4,150	1,450	1,640	2,980	1,330	386	442	652	g424
2	1,510	4,220	2,240	g3,980	1,450	1,270	4,300	1,210	420	392	574	g119
3	2,870	5,740	2,190	g4,040	1,450	1,710	4,040	884	445	1,450	446	g198
4	1,800	3,590	1,800	g4,440	1,290	2,900	3,250	885	g782	5,240	387	g186
5	1,290	2,710	1,620	g4,040	1,180	4,610	4,060	866	1,250	3,200	g289	g213
6	955	2,350	1,580	g2,870	1,060	3,250	9,040	885	1,250	1,890	g242	g242
7	830	1,990	1,530	g2,660	3,120	2,610	7,000	804	g1,250	1,880	g257	g228
8	g955	1,760	1,800	g2,550	10,200	2,090	5,360	1,250	g657	1,730	295	g213
9	g1,140	1,530	2,190	g2,350	4,490	2,090	4,490	1,310	622	2,250	g186	180
10	g1,180	1,450	1,890	g2,240	2,980	2,500	4,040	1,370	g467	1,940	g162	128
11	g782	1,410	1,670	g2,140	2,290	4,250	3,590	1,010	428	1,470	g186	145
12	g851	1,590	1,620	g1,940	2,350	7,970	3,140	880	411	1,080	223	124
13	832	3,640	1,670	g1,850	2,660	6,470	2,930	830	g657	1,140	206	112
14	g718	4,940	2,040	g1,670	3,030	6,280	2,760	624	g1,410	1,270	190	96
15	758	15,700	1,850	g1,580	8,340	6,580	2,500	686	928	894	259	117
16	634	8,080	2,060	g1,290	6,860	9,120	2,350	713	835	748	294	70
17	g571	5,820	13,600	g2,660	4,720	9,740	2,190	688	1,070	828	366	76
18	g597	4,840	7,060	g4,320	3,470	5,520	2,140	657	1,020	797	392	73
19	648	4,270	5,300	4,320	2,510	3,480	2,140	748	1,100	600	286	76
20	552	3,590	4,380	2,450	2,510	3,470	2,140	627	781	822	350	67
21	702	3,140	3,920	1,890	2,070	3,700	1,990	568	647	568	448	87
22	563	2,820	3,470	1,760	2,040	3,920	1,800	552	524	472	398	69
23	597	2,450	3,090	2,120	1,990	3,920	1,670	544	468	474	244	22
24	593	2,350	2,710	3,430	1,730	4,100	1,990	544	442	434	264	48
25	626	2,500	2,450	4,550	1,710	4,320	2,190	533	649	372	419	48
26	583	2,240	2,400	2,820	1,800	4,320	1,890	515	564	g342	1,510	69
27	597	3,870	2,290	2,240	1,890	4,040	1,670	496	510	g289	g2,090	56
28	610	3,750	7,470	1,760	1,800	3,980	1,710	432	372	g493	g1,180	34
29	583	2,710	8,190	1,670		3,870	1,530	486	338	418	g493	44
30	876	2,240	6,530	1,710		3,590	1,370	362	394	451	g359	10
31	1,580		g5,470	1,620		3,200		408		760	g242	

Month	Observed: Second-foot-days	Observed: Maximum	Observed: Minimum	Observed: Mean	Diversion (mean)/	Adjusted for diversion: Mean	Adjusted for diversion: Per square mile	Adjusted for diversion: Run-off in inches
October	28,275	2,870	552	912	260	1,172	0.619	0.71
November	108,660	15,700	1,370	3,622	250	3,872	2.05	2.29
December	108,170	13,600	1,530	3,489	253	3,742	1.98	2.28
Calendar year 1940	1,082,271	34,800	210	2,957	261	3,218	1.70	23.15
January	83,110	4,550	1,290	2,681	250	2,931	1.55	1.79
February	82,440	10,200	1,060	2,944	257	3,201	1.69	1.76
March	130,510	9,740	1,270	4,210	268	4,478	2.37	2.73
April	92,250	9,040	1,370	3,075	273	3,348	1.77	1.98
May	23,697	1,370	362	764	273	1,037	.548	.63
June	21,077	1,250	338	703	283	986	.521	.58
July	35,136	5,240	289	1,133	284	1,417	.749	.86
August	13,889	2,090	162	448	283	731	.386	.44
September	3,574	424	10	119	283	402	.212	.24
Water year 1940-41	730,788	15,700	10	2,002	268	2,270	1.20	16.29

Peak-discharge.- Nov. 15 (7 a.m.) 22,300 sec.-ft.; Dec. 17 (5:30 a.m.) 21,400 sec.-ft.
g Computed from graph based on gage readings made thrice daily.
/ Diversion for water supply of city of Philadelphia.

Little Schuylkill River at Tamaqua, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°48'20", long. 75°58'20", at Panther Valley Water Co. pumping plant, 0.6 mile upstream from Tamaqua, Schuylkill County, and 0.8 mile upstream from Panther Creek. Datum of gage is 817.46 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 42.9 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. June 1916 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1928 obtained at site 0.6 mile downstream.

Average discharge.- 23 years (1916-17, 1919-41), 90.8 second-feet (adjusted for diversion).

Extremes.- Maximum discharge during year, 248 second-feet Apr. 5 (gage height, 3.11 feet); minimum, 5.8 second-feet Sept. 29 (gage height, 1.44 feet); minimum daily, 6.0 second-feet Sept. 27-29.

1916-41: Maximum discharge, 3,740 second-feet Aug. 24, 1933 (gage height, 7.50 feet); minimum, 1.8 second-feet Dec. 18, 1930 (gage height, 1.21 feet); minimum daily, 3.0 second-feet Dec. 23, 1930.

Remarks.- Records good except those based on staff-gage readings or partial gage-height records, which are fair, and those for period of no gage-height record and periods of ice effect, which are poor. Flow regulated by Still Creek Reservoir. Water diverted above station not included in records of daily discharge.

Cooperation.- Record of water diverted furnished by Panther Valley Water Co.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	28	51	h122	38	37	138	26	16.4	f13.3	12.8	7.7
2	35	107	50	h111	34	42	143	26	14.0	f13.0	10.1	8.4
3	37	85	48	h118	34	46	138	27	16.2	f12.8	9.7	7.4
4	27	72	41	h103	32	92	135	26	19.6	f23	8.2	9.5
5	28	76	42	h76	30	87	178	25	47	19.8	h7.0	10.3
6	24	74	38	80	29	74	206	29	29	15.2	h8.4	11.0
7	24	64	39	70	35	62	173	24	18.1	19.8	h10.1	7.7
8	47	64	41	62	50	60	152	27	14.9	85	h7.4	7.1
9	34	60	41	56	44	62	140	30	13.0	34	h7.1	8.1
10	27	55	39	56	42	55	129	27	13.7	24	7.7	8.6
11	29	55	36	52	*41	57	113	26	11.6	25	7.7	9.3
12	30	125	37	48	40	57	101	22	12.1	24	10.6	7.2
13	26	85	52	50	40	50	91	23	13.0	21	8.1	7.9
14	26	103	51	47	66	50	83	23	14.0	17.3	7.7	8.1
15	27	206	45	45	109	56	74	22	13.6	17	13.3	6.6
16	30	189	60	44	82	90	69	23	14.3	16.4	19.4	7.1
17	25	170	97	49	64	109	67	22	10.8	14.3	11.2	7.4
18	25	140	89	47	56	80	65	20	10.3	15.5	8.1	6.4
19	28	118	83	43	50	72	60	17.6	9.9	14.3	9.0	6.5
20	25	107	h*82	41	49	72	51	17.1	8.8	14.9	10.8	6.8
21	24	99	h85	39	48	85	47	18.0	8.1	12.3	9.3	6.2
22	27	89	h80	41	45	105	45	14.9	7.4	13.8	8.1	6.1
23	23	82	h74	42	42	132	44	15.9	h10.6	13.8	8.2	6.1
24	21	78	h65	43	40	140	52	17.0	h23	10.1	7.9	6.2
25	21	67	h60	37	43	150	45	13.8	h11.4	10.3	8.6	6.6
26	22	60	h55	37	43	145	41	14.3	h12.3	11.2	13.3	6.6
27	20	64	h64	35	41	167	39	16.7	h10.8	9.0	16.1	6.0
28	19.1	57	h107	34	39	167	41	15.9	h11.0	9.5	11.8	6.0
29	21	48	a122	35		165	33	15.6	12.3	13.0	11.2	6.0
30	48	48	a145	33		147	27	14.0	12.3	12.3	10.1	6.8
31	39		a134	36		138		13.5		16.1	9.3	

Month	Observed				Diversion (mean)/	Adjusted for diversion		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	861.1	48	19.1	27.8	11.2	39.0	0.909	1.05
November	2,675	206	28	89.2	11.1	100	2.33	2.60
December	2,053	145	36	66.2	11.2	77.4	1.80	2.08
Calendar year 1940	27,862.5	1,210	8.4	76.1	12.7	88.8	2.07	28.22
January	1,732	122	33	55.9	16.1	72.0	1.68	1.94
February	1,306	109	29	46.6	15.1	61.7	1.44	1.50
March	2,851	167	37	92.0	14.6	107	2.49	2.87
April	2,720	206	27	90.7	9.1	99.8	2.33	2.60
May	652.3	30	13.5	21.0	11.4	32.4	.755	.87
June	439.5	47	7.4	14.6	16.4	31.0	.723	.81
July	571.0	85	9.0	18.4	11.4	29.8	.695	.80
August	308.3	19.4	7.0	9.95	11.2	21.2	.494	.57
September	221.7	11.0	6.0	7.39	5.2	12.6	.294	.33
Water year 1940-41	16,390.9	206	6.0	44.9	12.0	56.9	1.33	18.02

* Winter discharge measurement made on this day.
/ Diversion from Still Creek Reservoir.
a No gage-height record; discharge computed on basis of records for nearby stations.
f Fragmentary gage-height record; discharge computed from partly estimated gage heights.
h Computed from staff-gage readings.
Note.- Stage-discharge relation affected by ice Dec. 4-7, Jan. 6 to Feb. 13, Feb. 17 to Mar. 3.

Perkiomen Creek at Graters Ford, Pa.

Location.- Water-stage recorder, lat. 40°13'45", long. 75°27'10", 1,650 feet upstream from highway bridge at Graters Ford, Montgomery County, and 2 1/2 miles north of Collegeville. Datum of gage is 112.37 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 279 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. June 1914 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 17 years (1914-16, 1926-41), 399 second-feet.

Extremes.- Maximum discharge not determined; minimum, 6.4 second-feet Sept. 28 (gage height, 0.82 foot); minimum daily, 6.8 second-feet Sept. 28.

1914-41: Maximum discharge, 41,200 second-feet July 9, 1935 (gage height, 18.26 feet), from rating curve extended above 12,000 second-feet; minimum, that of Sept. 28, 1941; minimum daily, that of Sept. 28, 1941.

Remarks.- Records good except those for periods of no or fragmentary gage-height record and those for period of ice effect, all of which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	143	373	488	200	140	288	94	39	32	121	49
2	334	1,990	429	425	180	150	1,090	88	40	63	68	48
3	468	852	283	544	170	170	566	80	48	108	46	48
4	259	385	208	782	165	400	406	78	66	326	44	36
5	178	274	216	450	160	600	1,340	78	131	234	29	39
6	141	233	216	340	160	350	1,860	81	158	115	39	38
7	129	190	*203	300	1,600	270	917	79	85	126	32	45
8	138	164	306	260	2,100	250	544	114	61	102	25	38
9	182	141	385	220	475	250	418	145	51	80	21	38
10	135	126	284	200	300	260	349	118	46	67	23	30
11	115	124	347	190	260	740	297	106	39	53	32	30
12	100	559	237	180	250	1,630	264	84	34	47	32	29
13	96	715	433	175	270	*1,500	237	75	84	105	18	26
14	87	2,180	374	170	600	1,360	225	70	263	100	19	24
15	84	f4,630	255	175	2,250	1,840	201	66	114	68	24	32
16	76	1,110	f2,240	210	600	2,340	182	68	111	54	24	27
17	70	624	f3,630	750	270	1,460	171	77	119	50	38	36
18	72	449	1,090	970	180	473	164	82	101	53	45	34
19	67	333	490	800	135	473	151	74	76	54	33	22
20	74	297	431	300	140	405	145	64	62	49	47	14
21	70	269	406	275	145	552	132	58	49	43	63	12
22	76	242	349	250	150	548	115	56	43	42	42	26
23	69	208	297	*565	145	572	112	52	43	38	35	23
24	67	229	242	510	140	576	181	49	40	39	35	15
25	69	269	229	450	145	622	197	45	41	28	328	16
26	68	216	237	330	140	513	145	41	36	30	505	21
27	63	615	288	290	135	468	135	46	34	24	929	13
28	67	615	a3,000	260	135	462	124	42	30	31	182	6.8
29	74	394	a2,300	220		406	108	42	30	24	98	23
30	178	333	a1,110	190		328	100	36	33	41	71	17
31	273		692	200		283		35		72	60	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,990	468	63	129	0.462	0.53
November	18,909	4,630	124	630	2.26	2.52
December	21,470	3,630	203	692	2.48	2.86
Calendar year 1940	167,136	9,520	32	457	1.64	22.26
January	11,469	970	170	370	1.33	1.53
February	11,600	2,250	135	414	1.48	1.55
March	20,391	2,340	140	658	2.36	2.72
April	11,164	1,860	100	372	1.33	1.49
May	2,223	145	35	71.7	.257	.30
June	2,107	263	30	70.2	.252	.28
July	2,298	326	24	74.1	.266	.31
August	3,108	929	18	100	.358	.41
September	855.8	49	6.8	28.5	.102	.11
Water year 1940-41	109,584.8	4,630	6.8	300	1.08	14.61

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby streams.
f Fragmentary gage-height record; discharge computed from partly estimated gage heights.
Note.- Stage-discharge relation affected by ice Jan. 5 to Mar. 11.

Ridley Creek at Moylan, Pa.

Location.- Water-stage recorder, lat. 39°54'05", long. 75°23'35", at Fox Bank Bridge, at Moylan, Delaware County, 1 mile south of Media. Datum of gage is 87.36 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 31.9 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. August 1931 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 10 years, 43.9 second-feet.

Extremes.- Maximum discharge during year, 746 second-feet Feb. 7 (gage height, 4.03 feet); minimum, 0.4 second-foot Sept. 14 (gage height, 0.46 foot); minimum daily, 3.1 second-feet Sept. 26.

1931-41: Maximum discharge, 4,500 second-feet July 23, 1938 (gage height, 8.16 feet), from rating curve extended above 570 second-feet; minimum, that of Sept. 14, 1941; minimum daily, that of Sept. 26, 1941.

Remarks.- Records good except those for periods of backwater, which are fair. Flow regulated by reservoir of Media Water Co., which diverts about 1.08 second-feet daily to supply borough of Media.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	19	32	40	37	29	42	30	20	13	15	9.5
2	29	113	30	41	37	40	77	29	21	14	14	6.1
3	29	42	29	58	35	38	49	29	19	14	12	4.9
4	19	28	26	49	34	95	42	27	42	51	10	6.3
5	17	25	31	37	33	64	170	28	40	30	11	6.3
6	16	25	31	35	33	47	111	29	34	25	6.6	6.8
7	16	25	31	35	246	42	70	26	21	56	12	5.8
8	21	21	40	33	163	44	55	45	20	37	6.7	6.0
9	23	17	33	33	51	54	51	33	18	27	9.4	4.7
10	17	19	30	33	42	55	48	32	18	18	7.9	6.0
11	15	20	30	33	38	290	45	29	15	18	7.3	6.0
12	17	43	29	31	39	196	44	26	15	18	10	5.0
13	13	46	33	31	38	159	42	26	38	17	10	5.4
14	15	115	29	30	51	121	42	24	33	16	7.8	3.5
15	15	207	28	29	90	104	42	25	22	14	13	4.9
16	17	53	55	54	47	96	39	27	28	15	15	4.2
17	14	39	93	102	42	79	40	28	20	21	11	3.4
18	15	33	40	86	39	49	37	27	19	26	10	5.0
19	16	31	36	62	32	52	37	22	18	18	11	3.5
20	18	30	35	40	37	48	36	23	14	16	12	3.2
21	18	29	33	36	35	48	34	22	16	14	11	3.2
22	17	28	32	34	34	46	32	21	15	14	9.1	3.6
23	17	28	32	38	34	47	33	20	14	12	9.2	3.9
24	17	30	29	99	34	49	59	21	14	13	8.3	3.9
25	18	32	29	126	31	53	39	20	14	12	41	3.3
26	17	33	32	49	32	47	35	18	13	13	20	3.1
27	17	147	33	44	32	45	34	19	13	11	28	3.5
28	18	48	141	42	29	44	32	19	12	11	13	3.6
29	18	36	73	39		44	31	19	12	12	11	3.4
30	32	35	56	39		40	31	17	11	13	9.2	4.1
31	28		44	38		40		18		14	10	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	575	32	13	18.5	0.580	0.67
November	1,397	207	17	46.6	1.46	1.63
December	1,255	141	26	40.5	1.27	1.46
Calendar year 1940	16,883	766	12	46.2	1.45	19.70
January	1,476	126	29	47.6	1.49	1.72
February	1,425	246	29	50.9	1.60	1.66
March	2,205	290	29	71.1	2.23	2.57
April	1,479	170	31	49.3	1.54	1.72
May	779	45	17	25.1	.787	.91
June	609	42	11	20.3	.636	.71
July	603	56	11	19.4	.608	.70
August	381.5	41	6.6	12.3	.386	.44
September	142.1	9.5	3.1	4.74	.148	.16
Water year 1940-41	12,326.6	290	3.1	33.8	1.06	14.35

Note.- Backwater from leaves Oct. 1 to Nov. 1 and from low dam Sept. 2-30; discharge computed on basis of five discharge measurements, gage heights, and records for nearby stations.

Chester Creek near Chester, Pa.

Location.- Water-stage recorder, lat. 39°52'10", long. 75°24'30", at Dutton Mill Bridge, 3 miles northwest of Chester, Delaware County. Datum of gage is 23.54 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 61.1 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. August 1931 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 10 years, 78.5 second-feet.

Extremes.- Maximum discharge during year, 1,350 second-feet Feb. 7 (gage height, 6.11 feet); minimum, 2.7 second-feet Sept. 25 (gage height 0.33 foot); minimum daily, 6.5 second-feet Sept. 25.

1931-41: Maximum discharge, 4,270 second-feet Aug. 23, 1933 (gage height, 11.48 feet), from rating curve extended above 800 second-feet; minimum, 0.3 second-foot Aug. 7, 1934 (gage height, 0.28 foot); minimum daily, that of Sept. 25, 1941.

Remarks.- Records good. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	39	55	67	64	55	68	52	37	23	20	16
2	68	206	50	74	60	75	141	51	40	27	15	19
3	56	78	49	120	59	70	86	47	36	38	15	15
4	40	48	a47	87	56	202	73	48	84	72	19	16
5	33	44	a54	66	54	118	362	48	81	55	14	20
6	33	41	48	62	55	85	240	48	66	50	16	18
7	32	40	52	57	462	76	130	47	44	149	15	17
8	38	36	73	55	351	86	102	78	39	87	14	15
9	49	34	57	53	101	107	91	56	37	48	11	14
10	35	34	51	56	81	126	86	57	38	35	10	15
11	33	33	50	53	71	587	79	48	36	35	15	14
12	29	75	48	50	70	401	76	45	30	38	17	14
13	31	81	56	51	74	289	73	45	76	31	15	11
14	29	194	51	47	104	204	72	44	67	29	15	11
15	28	363	47	46	184	169	70	44	46	28	19	14
16	28	102	99	117	93	156	67	46	59	25	30	12
17	28	69	166	241	79	135	66	46	40	33	13	11
18	29	59	71	168	73	90	63	47	39	38	21	11
19	30	52	60	108	65	85	62	41	34	32	19	11
20	33	51	57	69	73	80	62	40	31	28	23	16
21	36	48	57	62	61	76	56	38	30	27	18	13
22	32	47	53	56	58	77	54	38	29	23	18	13
23	31	45	52	64	60	76	54	38	27	21	14	9.6
24	32	53	47	217	58	84	122	38	27	22	14	11
25	31	53	49	261	56	92	73	35	27	20	293	6.5
26	32	50	52	90	56	80	63	34	24	20	50	9.7
27	29	305	55	81	54	76	62	33	24	19	34	9.6
28	32	89	283	74	52	75	57	38	22	21	24	7.4
29	32	64	144	72		72	54	35	23	19	21	11
30	67	58	104	67		67	54	33	23	19	18	8.8
31	57		79	63		64		32		23	16	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,123	68	28	36.2	0.592	0.68
November	2,491	363	33	83.0	1.36	1.52
December	2,216	283	47	71.5	1.17	1.35
Calendar year 1940	29,659	1,340	24	81.0	1.33	18.06
January	2,754	261	46	88.8	1.45	1.68
February	2,684	462	52	95.9	1.57	1.63
March	4,035	587	55	130	2.13	2.46
April	2,718	362	54	90.6	1.48	1.65
May	1,370	78	32	44.2	.723	.83
June	1,216	84	22	40.5	.663	.74
July	1,135	149	19	36.6	.599	.69
August	856	293	10	27.6	.452	.52
September	389.6	20	6.5	13.0	.213	.24
Water year 1940-41	22,987.6	587	6.5	63.0	1.03	13.99

a No gage-height record; discharge computed on basis of two discharge measurements and comparison with records for stations nearby.

Brandywine Creek at Chadds Ford, Pa.

Location.- Water-stage recorder, lat. 39°52'10", long. 75°35'35", at Pennsylvania Railroad bridge at Chadds Ford, Delaware County. Datum of gage is 150.19 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 287 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. August 1911 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 30 years, 379 second-feet.

Extremes.- Maximum discharge during year, 5,060 second-feet Feb. 8 (gage height, 8.92 feet); minimum, 9.2 second-feet Sept. 15 (gage height, 0.34 foot); minimum daily, 56 second-feet Sept. 28.

1911-41: Maximum discharge, 30,500 second-feet Mar. 5, 1920 (gage height, 15.0 feet, from floodmark), from rating curve extended above 7,000 second-feet; minimum, that of Sept. 15, 1941; minimum daily, 50 second-feet Sept. 11, 13, 23, 1932.

Remarks.- Records good except those for period of no gage-height record, which are fair. Regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	202	307	418	338	249	400	246	161	124	146	90
2	273	725	280	425	355	376	780	239	171	144	137	86
3	338	486	266	524	341	341	470	226	164	300	110	86
4	222	266	236	560	321	983	410	226	285	1,660	102	89
5	185	219	270	425	314	726	1,300	229	408	682	106	101
6	171	202	256	339	314	446	850	226	321	317	103	104
7	164	188	263	362	1,390	372	630	222	215	321	98	88
8	185	178	341	328	2,410	348	510	327	185	249	93	79
9	212	171	314	331	637	446	450	270	164	212	92	78
10	171	164	270	331	460	439	400	256	154	181	88	79
11	158	168	263	324	414	1,730	383	236	144	164	84	82
12	154	373	256	311	464	2,040	365	219	141	161	102	82
13	151	438	283	314	542	1,380	358	212	292	158	94	76
14	147	659	270	290	686	1,210	348	202	427	151	88	70
15	144	2,100	246	287	1,210	1,230	334	198	251	147	101	67
16	134	686	353	383	560	1,280	324	219	277	137	129	71
17	137	432	1,240	698	442	966	317	229	198	151	117	67
18	137	355	471	846	383	481	307	212	188	195	96	66
19	137	307	345	739	326	455	297	192	171	158	108	61
20	151	287	324	406	360	442	294	185	154	144	120	61
21	161	273	321	238	350	446	280	178	151	135	111	59
22	154	263	304	338	321	425	266	175	141	129	100	64
23	144	253	287	462	314	418	270	178	137	127	91	64
24	144	277	270	675	300	428	390	185	158	123	91	63
25	144	307	270	1,250	304	460	334	168	161	119	263	59
26	144	272	277	597	297	422	290	164	134	118	262	60
27	141	1,030	307	460	290	410	287	164	127	113	167	57
28	147	533	1,230	411	280	390	270	164	124	112	114	56
29	141	369	840	383		320	260	161	124	115	98	59
30	274	324	671	369		370	253	154	120	120	96	58
31	342		488	376		360		151		127	88	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,465	342	134	176	0.613	0.71
November	12,507	2,100	164	417	1.45	1.62
December	12,119	1,240	236	391	1.36	1.57
Calendar year 1940	142,425	4,430	120	389	1.36	18.47
January	14,200	1,250	238	458	1.60	1.84
February	14,723	2,410	280	526	1.83	1.91
March	20,389	2,040	249	658	2.29	2.64
April	12,428	1,300	253	414	1.44	1.61
May	6,413	327	151	207	.721	.83
June	5,848	427	120	195	.679	.76
July	7,094	1,660	112	229	.798	.92
August	3,595	263	84	116	.404	.47
September	2,182	104	56	72.7	.253	.28
Water year 1940-41	116,963	2,410	56	320	1.11	15.16

Peak discharge.- Nov. 15 (6:45 a.m.) 3,300 sec.-ft.; Feb. 8 (4:30 a.m.) 5,060 sec.-ft.; Mar. 11 (11 p.m.) 3,900 sec.-ft.

Note.- No gage-height record Mar. 26 to Apr. 10; discharge computed on basis of comparison with records for nearby stations.

SUSQUEHANNA RIVER BASIN

North Branch of Susquehanna River near Waverly, N. Y.

Location.- Water-stage recorder, lat. 41°59'05", long. 76°30'05", 1,000 feet upstream from Cayuta Creek, 2,000 feet upstream from bridge at Sayre, Pa., and 2½ miles downstream from Waverly, Tioga County. Datum of gage is 743.96 feet above mean sea level (furnished by Corps of Engineers, U. S. Army).

Drainage area.- 4,780 square miles.

Records available.- February 1937 to September 1941.

Extremes.- Maximum discharge during year, 68,500 second-feet Apr. 6 (gage height, 14.75 feet); minimum, 378 second-feet Sept. 29 (gage height, 0.61 foot).
1937-41: Maximum discharge, 106,000 second-feet Apr. 1, 1940 (gage height, 19.00 feet); minimum, 247 second-feet Sept. 24, 25, 1939 (gage height, 0.52 foot).

Remarks.- Records excellent except those for periods of ice effect, those for period of shifting control, and those for period of doubtful gage-height record, all of which are good.

Cooperation.- Records furnished by U. S. Geological Survey, Albany, N. Y.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,350	2,050	3,560	32,400	2,900	2,800	14,000	4,410	1,900	2,050	4,050	644
2	1,240	2,280	3,390	22,300	3,100	3,000	17,000	4,000	1,760	4,110	6,950	560
3	1,150	4,850	3,100	16,600	3,100	3,430	23,500	3,740	1,620	2,310	4,860	644
4	1,100	4,740	2,600	14,100	2,900	4,750	30,700	3,460	1,570	1,660	2,920	710
5	1,060	4,120	2,450	12,600	2,600	7,070	40,300	3,210	2,210	1,460	2,070	732
6	998	3,630	2,300	11,100	*2,500	8,400	63,400	3,180	3,530	1,270	1,620	898
7	926	3,630	2,900	9,590	2,700	7,400	65,400	3,280	2,990	1,140	1,310	837
8	1,200	3,410	3,270	8,500	2,900	6,200	56,700	3,530	2,330	1,040	1,150	777
9	2,690	3,250	3,600	7,450	3,000	5,400	45,200	4,720	1,810	935	998	721
10	3,090	3,040	3,800	6,970	2,900	5,000	38,700	5,440	1,540	910	885	634
11	2,890	2,820	4,470	7,180	2,800	4,800	35,500	6,250	1,400	837	813	624
12	2,300	2,780	4,630	6,450	3,000	4,500	32,200	5,750	1,300	777	765	624
13	1,930	3,340	9,600	5,690	3,400	4,300	28,400	4,550	1,250	732	710	710
14	1,660	3,730	*14,800	4,300	3,840	4,100	25,600	3,900	1,240	666	688	666
15	1,540	6,920	12,300	4,000	4,410	4,300	26,000	3,460	1,280	655	688	d620
16	1,470	11,300	9,410	3,900	5,350	4,800	23,800	3,180	1,610	644	710	d580
17	1,480	10,400	14,000	*4,400	6,400	6,000	18,600	2,970	1,810	743	777	d560
18	1,520	8,810	15,900	5,320	5,800	5,800	15,100	2,830	4,590	745	849	d540
19	1,470	7,530	12,600	5,630	5,200	4,900	13,500	2,690	2,990	1,110	985	d520
20	1,440	6,700	10,500	4,300	4,700	5,200	13,500	2,520	2,250	1,020	1,010	502
21	1,350	6,470	9,410	3,800	4,600	5,600	12,900	2,350	1,870	801	935	493
22	1,330	6,220	9,100	3,700	4,440	5,600	11,100	2,250	1,560	765	873	484
23	1,280	5,870	*8,650	4,300	4,300	6,000	9,940	2,170	1,320	743	837	474
24	1,230	5,440	7,750	3,800	3,900	8,000	9,000	2,110	1,220	721	789	455
25	1,220	4,970	6,600	3,400	3,700	11,400	8,090	2,110	1,140	666	777	438
26	1,190	4,550	6,000	3,600	3,600	10,600	7,280	1,980	1,020	624	754	430
27	1,170	4,090	7,050	3,480	*3,400	10,800	6,680	1,850	1,010	571	789	438
28	1,090	3,800	15,900	3,200	3,100	13,000	6,120	1,760	935	540	813	438
29	1,080	3,680	35,400	3,000		*13,500	5,600	1,690	837	1,710	765	396
30	1,200	3,480	44,000	2,800		12,000	4,960	1,740	777	1,890	754	387
31	1,750		42,600	2,700		11,000		1,830		7,040	710	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	46,394	3,090	926	1,497	0.313	0.36
November	147,900	11,300	2,050	4,930	1.03	1.15
December	331,640	44,000	2,300	10,700	2.24	2.58
Calendar year 1940	2,832,750	104,000	675	7,740	1.62	22.02
January	230,560	32,400	2,700	7,437	1.56	1.80
February	104,540	6,400	2,500	3,734	.781	.81
March	209,650	13,500	2,800	6,763	1.41	1.63
April	708,770	65,400	4,960	23,630	4.94	5.51
May	98,910	6,250	1,690	3,191	.668	.77
June	52,669	4,590	777	1,756	.367	.41
July	40,883	7,040	540	1,319	.276	.32
August	43,604	6,950	688	1,407	.294	.34
September	17,536	898	387	585	.122	.14
Water year 1940-41	2,033,056	65,400	387	5,570	1.17	15.82

* Winter discharge measurement made on this day.
d Doubtful gage-height record; discharge computed on basis of records for station at Vestal.

Note.- Stage-discharge relation affected by ice Dec. 3-7, 9, 10, Jan. 14-17, 20-26, Jan. 28 to Feb. 13, Feb. 17-21, Feb. 23 to Mar. 2, Mar. 6 to Apr. 3. Shifting-control method used Oct. 1 to Nov. 2, Dec. 30.

North Branch of Susquehanna River at Towanda, Pa.

Location.- Water-stage recorder, lat. 41°45'55", long. 76°28'25", at Bridge Street Bridge, at Towanda, Bradford County, 1 3/4 miles upstream from Towanda Creek. Datum of gage is 693.85 feet above mean sea level (unadjusted).

Drainage area.- 7,797 square miles.

Records available.- October 1918 to October 1920, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1914 to September 1918 (gage heights only), October 1918 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Gage-height records collected at site since December 1892 are contained in reports of U. S. Weather Bureau.

Average discharge.- 23 years (1918-41), 9,949 second-feet.

Extremes.- Maximum discharge during year, 122,000 second-feet Apr. 6 (gage height, 18.47 feet); minimum, 461 second-feet Sept. 20 (gage height, -0.17 foot).
1892-1941: Maximum discharge, 188,000 second-feet Mar. 19, 1936 (gage height, 25.03 feet); minimum, 379 second-feet Sept. 25, 1939 (gage height, -0.23 foot).
Maximum stage known prior to 1892, 25.0 feet Mar. 17, 1865 (discharge, about 188,000 second-feet).

Remarks.- Records good except those for period of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,330	2,680	4,630	42,000	3,400	3,600	21,200	5,760	2,410	1,470	4,490	842
2	2,040	2,940	4,630	29,600	3,700	3,800	27,800	5,090	2,330	4,430	6,260	764
3	1,900	5,240	4,490	21,800	3,800	4,500	33,800	4,780	2,220	3,040	6,250	712
4	1,770	5,940	3,820	18,400	3,600	7,000	43,400	4,350	2,160	2,100	3,700	796
5	1,660	5,420	3,570	16,400	*3,300	10,000	58,900	4,220	3,060	1,850	2,660	820
6	1,580	4,780	3,080	13,900	3,100	12,000	111,000	4,080	5,250	1,630	2,040	960
7	1,500	4,630	4,080	11,600	3,500	11,000	104,000	4,080	4,930	1,470	1,680	960
8	1,630	4,490	4,490	10,200	3,300	9,200	78,300	4,220	3,820	1,380	1,450	888
9	3,390	4,350	5,590	9,300	3,300	7,800	60,300	5,090	2,910	1,240	1,270	854
10	3,570	4,080	5,940	8,500	3,600	6,800	49,000	5,940	2,410	1,170	1,150	796
11	3,700	3,820	6,310	8,500	3,400	6,400	44,100	6,700	2,080	1,130	1,030	732
12	3,080	3,700	7,300	7,700	3,700	6,000	39,900	6,500	1,920	1,050	984	701
13	2,570	4,080	12,300	6,900	4,000	5,600	35,000	5,420	1,830	1,050	900	732
14	2,220	4,780	24,800	5,940	4,400	5,400	31,400	4,490	1,770	996	854	774
15	2,060	7,180	18,400	4,930	4,900	5,700	30,800	4,080	1,750	996	866	754
16	1,940	13,600	13,900	5,090	6,600	6,200	29,000	3,950	2,330	936	900	722
17	1,920	12,900	18,600	5,420	7,600	6,800	23,000	3,700	2,910	1,050	936	680
18	1,960	10,900	23,000	5,940	8,200	7,400	19,400	3,820	5,930	1,050	996	653
19	1,940	9,300	17,900	6,500	7,000	6,200	17,400	4,490	4,960	1,350	1,100	626
20	1,880	8,300	14,600	5,940	6,200	6,000	18,400	3,820	3,570	1,560	1,220	590
21	1,830	8,300	12,900	4,630	5,800	7,000	17,400	3,440	2,840	1,400	1,160	582
22	1,770	8,500	12,400	4,930	5,400	7,400	14,900	3,080	2,330	1,300	1,060	574
23	1,700	7,900	11,900	5,250	5,200	8,700	13,400	3,010	1,980	1,160	1,010	558
24	1,680	7,300	10,400	4,780	4,800	13,900	11,900	2,910	1,790	1,080	984	550
25	1,650	6,700	8,900	4,350	4,600	27,800	10,600	2,840	1,630	984	948	518
26	1,590	6,120	8,100	4,490	4,400	24,800	9,300	2,700	1,500	912	924	518
27	1,580	5,590	8,700	4,350	4,100	23,000	8,500	2,500	1,420	831	912	496
28	1,530	5,090	19,500	4,100	3,900	26,000	7,900	2,350	1,330	774	948	503
29	1,470	4,930	51,800	3,800		26,000	7,100	2,240	1,290	1,390	910	496
30	1,610	4,630	60,500	3,500		20,000	6,500	2,180	1,190	1,610	900	475
31	2,060		54,900	3,400		17,400		2,240		6,610	866	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	63,010	3,700	1,470	2,033	0.261	0.30
November	188,170	13,600	2,680	6,272	.804	.90
December	461,430	60,500	3,080	14,880	1.91	2.20
Calendar year 1940	4,199,625	172,000	857	11,470	1.47	20.03
January	292,140	42,000	3,400	9,424	1.21	1.39
February	128,800	8,200	3,100	4,600	.590	.61
March	339,400	27,800	3,600	10,950	1.40	1.62
April	983,600	111,000	6,500	32,790	4.21	4.69
May	124,070	6,700	2,180	4,002	.513	.59
June	77,850	5,930	1,190	2,595	.333	.37
July	48,999	6,610	774	1,581	.203	.23
August	51,358	6,260	854	1,657	.213	.24
September	20,626	960	475	688	.088	.10
Water year 1940-41	2,779,453	111,000	475	7,615	.977	13.24

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 28 to Mar. 22.

North Branch of Susquehanna River at Wilkes-Barre, Pa.

Location.- Water-stage recorder, lat. 41°15'00", long. 75°53'10", at Market Street Bridge in Wilkes-Barre, Luzerne County, 1.6 miles upstream from Toby Creek. Datum of gage is 511.94 feet above mean sea level (unadjusted).

Drainage area.- 9,960 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. March 1899 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Gage-height records collected at site since November 1890 are contained in reports of U. S. Weather Bureau.

Average discharge.- 42 years (1899-1941), 13,360 second-feet.

Extremes.- Maximum discharge during year, 138,000 second-feet Apr. 7 (gage height, 23.50 feet); minimum, 684 second-feet Sept. 30 (gage height, 0.88 foot).
1890-1941: Maximum discharge, 232,000 second-feet Mar. 20, 1936 (gage height, 33.07 feet); minimum, 617 second-feet Sept. 18, 1939 (gage height, 0.69 foot).
Maximum stage known, 33.1 feet Mar. 18, 1865, from floodmarks (discharge, about 232,000 second-feet).

Remarks.- Records good except those for period of ice effect and those based on wire-weight gage readings, all of which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,730	4,060	6,600	54,700	b4,000	h4,540	24,500	7,850	h3,080	1,880	6,290	h1,400
2	3,300	5,700	6,600	42,100	b4,500	h4,420	33,000	7,130	h3,080	2,040	6,440	h1,280
3	3,100	8,740	6,600	31,800	b4,900	h5,280	38,400	6,440	h3,180	3,880	6,300	h1,250
4	3,000	8,740	5,410	26,000	b5,100	h6,440	45,400	6,040	h2,980	4,660	7,130	1,200
5	2,710	9,040	5,040	h22,000	b4,700	7,130	54,700	5,650	h3,940	3,490	4,900	1,130
6	2,440	8,440	4,060	h18,500	b4,300	10,300	98,000	5,400	6,300	2,890	3,710	1,190
7	2,440	7,560	4,300	h15,000	b4,700	13,000	133,000	5,280	7,560	2,540	2,890	1,250
8	3,400	7,000	5,670	h13,800	*5,150	16,000	110,000	5,520	6,990	h2,540	2,460	1,250
9	4,060	6,600	6,460	h12,000	5,400	10,000	83,400	5,780	5,400	h2,220	2,150	1,340
10	3,840	6,190	6,860	h11,000	4,540	8,750	65,500	6,440	4,300	h2,020	1,910	1,400
11	4,780	5,930	8,140	h10,000	4,540	9,370	56,800	7,270	3,490	h1,840	1,740	1,490
12	4,910	5,930	8,740	h10,000	5,280	7,700	50,600	7,850	3,080	h1,780	1,770	1,250
13	4,420	5,930	10,300	h9,680	6,040	7,560	45,400	7,850	2,890	h1,670	1,530	1,140
14	3,840	6,320	17,500	h8,150	6,440	8,450	39,600	6,580	2,710	h1,590	1,400	1,050
15	3,510	10,000	22,900	6,710	7,700	8,150	35,400	5,780	2,800	h1,600	1,540	1,030
16	3,300	15,400	18,300	5,780	8,150	8,450	34,200	5,400	2,890	1,500	1,720	1,080
17	3,100	17,800	19,200	5,910	8,750	9,680	31,300	5,020	3,080	1,490	1,600	1,100
18	3,000	15,800	23,900	7,130	10,000	10,000	26,000	4,780	4,300	1,500	1,530	1,060
19	2,900	13,900	22,900	8,150	10,600	9,060	22,000	4,660	7,730	1,560	1,560	993
20	2,900	12,200	18,800	7,270	9,370	9,060	21,000	5,280	6,990	1,600	1,570	927
21	2,800	11,200	16,600	6,440	h8,450	9,370	21,000	4,780	5,150	1,900	1,530	905
22	2,710	10,900	15,000	4,900	h7,850	10,000	19,500	4,300	4,180	2,060	1,670	884
23	2,710	10,600	14,300	6,440	h7,130	11,600	16,500	4,060	3,490	1,870	1,650	863
24	2,530	10,300	13,600	6,300	h6,580	15,500	h15,000	3,820	3,380	1,720	1,520	832
25	2,530	9,660	12,200	4,660	h6,710	26,000	h13,400	3,710	2,980	1,590	2,040	821
26	2,440	8,740	10,900	5,150	h6,440	35,400	h12,300	3,490	2,620	1,490	h2,000	810
27	2,360	8,440	10,600	b5,500	h5,780	31,300	11,000	3,490	2,380	1,400	h1,980	771
28	2,360	7,700	13,800	b5,000	h5,780	32,400	10,000	h3,380	2,150	1,320	h1,780	h702
29	2,280	7,000	34,000	b5,100		34,800	9,370	h3,080	2,080	1,390	h1,590	h702
30	2,800	6,860	61,800	b4,700		30,200	8,750	h2,890	1,940	1,510	h1,540	h684
31	3,730		63,400	*b4,400		25,000		h2,710		2,900	h1,440	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	97,930	4,910	2,280	3,159	0.317	0.37
November	272,680	17,800	4,060	9,089	.913	1.02
December	494,480	63,400	4,060	15,950	1.60	1.85
Calendar year 1940	5,311,480	206,000	1,460	14,510	1.46	19.84
January	384,270	54,700	4,400	12,400	1.24	1.43
February	178,880	10,600	4,000	6,388	.641	.67
March	434,910	35,400	4,420	14,030	1.41	1.62
April	1,185,020	133,000	8,750	39,500	3.97	4.42
May	161,710	7,850	2,710	5,216	.524	.60
June	117,120	7,730	1,940	3,904	.392	.44
July	63,440	4,660	1,320	2,046	.205	.24
August	78,880	7,130	1,400	2,545	.256	.29
September	31,784	1,490	684	1,059	.106	.12
Water year 1940-41	3,501,104	133,000	684	9,592	.963	13.07

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h Discharge based on wire-weight gage readings.

North Branch of Susquehanna River at Danville, Pa.

Location.- Water-stage recorder, lat. 40°57'25", long. 76°37'20", at highway bridge at Danville, Montour County, three-quarters of a mile upstream from Mahoning Creek. Datum of gage is 431.07 feet above mean sea level (unadjusted).

Drainage area.- 11,220 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, July 1932 to September 1941 in reports of U. S. Geological Survey. March 1899 to December 1903, March 1905 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 38 years (1899-1900, 1901-3, 1905-31, 1932-41), 15,050 second-feet.

Extremes.- Maximum discharge during year, 142,000 second-feet Apr. 7 (gage height, 19.45 feet); minimum, 938 second-feet Sept. 30 (gage height, 1.77 feet).
1899-1941: Maximum discharge, 250,000 second-feet Mar. 20,1936; maximum gage height, 30.7 feet Mar. 9, 1904, from floodmarks (ice jam); minimum discharge, 690 second-feet Sept. 20, 1939 (gage height, 1.61 feet).

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,360	4,510	7,560	66,000	b4,600	5,850	28,800	8,830	3,250	2,430	3,530	2,010
2	4,050	5,870	7,350	52,800	5,000	5,330	35,100	7,970	3,760	2,430	7,080	1,880
3	3,900	10,600	7,350	40,600	5,500	5,680	44,600	7,160	3,580	2,430	6,030	1,730
4	3,610	11,200	6,960	31,600	5,850	7,760	49,400	6,770	3,610	4,460	6,570	1,670
5	3,360	10,900	5,850	26,700	5,330	8,180	58,800	6,210	4,510	5,000	6,580	1,730
6	3,110	10,400	5,850	23,200	4,830	9,050	90,000	6,030	5,850	3,900	4,670	1,570
7	2,960	9,280	5,000	18,700	*4,830	13,400	135,000	5,680	7,560	3,300	3,760	1,540
8	3,880	8,400	5,330	16,300	5,500	14,500	128,000	5,850	7,970	3,330	3,060	1,560
9	5,000	7,560	6,400	15,100	5,500	12,600	96,800	6,030	6,960	3,530	2,650	1,540
10	5,000	7,160	*6,770	12,900	5,330	10,600	75,400	6,210	5,330	2,930	2,330	1,570
11	4,830	6,770	7,760	12,200	4,670	9,720	63,300	6,960	4,360	2,580	2,100	2,140
12	5,330	6,770	8,830	11,400	5,160	9,720	56,100	7,560	3,760	2,430	2,010	2,220
13	5,330	7,160	9,950	11,200	6,210	8,180	51,000	7,970	3,410	2,360	1,990	1,760
14	4,830	7,160	*13,200	10,600	7,350	8,830	45,400	7,560	3,300	2,310	1,780	1,540
15	4,360	11,300	26,000	8,610	10,600	9,500	40,600	6,580	3,360	2,100	1,730	1,440
16	4,050	18,700	24,600	7,560	10,400	9,950	38,200	6,030	3,390	1,970	3,650	1,360
17	3,760	22,500	23,900	6,770	9,950	*11,400	36,600	5,680	3,610	1,900	3,470	1,360
18	3,580	21,800	27,400	6,960	11,400	12,900	30,900	5,330	3,900	1,840	2,410	1,380
19	3,440	18,700	30,900	8,180	b11,600	11,900	26,000	5,000	5,000	1,800	2,170	1,340
20	3,360	15,700	26,000	8,830	b11,000	10,900	22,500	5,000	8,400	1,820	2,260	1,290
21	3,300	13,600	21,800	7,970	b11,200	11,600	22,500	5,330	6,770	1,840	2,200	1,240
22	3,220	12,600	19,300	6,960	b9,200	12,400	21,800	4,830	5,160	1,990	2,010	1,190
23	3,110	12,200	17,500	6,030	8,400	14,500	19,300	4,510	4,360	2,240	2,040	1,180
24	3,030	11,900	16,300	7,350	8,180	17,500	17,500	4,360	3,900	2,100	2,040	1,150
25	2,980	11,200	15,100	6,400	7,350	23,900	15,700	4,050	3,760	1,990	1,990	1,120
26	2,930	10,200	13,200	5,680	6,960	39,000	13,900	3,900	3,280	1,930	3,480	1,100
27	2,850	9,720	12,200	6,030	6,960	40,600	12,600	3,760	2,900	1,800	3,410	1,080
28	2,780	9,050	14,200	b5,800	6,580	39,000	11,400	3,610	2,620	1,820	3,090	1,060
29	2,700	8,180	31,400	b5,800		41,400	10,400	3,610	2,450	1,800	2,580	1,020
30	2,930	7,560	66,900	b5,400		39,800	9,500	3,390	2,380	1,800	2,240	952
31	4,050		73,400	b5,000		32,300		3,170		2,240	2,170	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	115,980	5,330	2,700	3,741	0.333	0.38
November	328,650	22,500	4,510	10,960	.977	1.09
December	564,260	73,400	5,000	18,200	1.62	1.87
Calendar year 1940	6,152,070	219,000	1,470	16,810	1.50	20.39
January	464,630	66,000	5,000	14,990	1.34	1.54
February	205,440	11,600	4,600	7,337	.654	.68
March	507,950	41,400	5,330	16,390	1.46	1.68
April	1,307,100	135,000	9,500	43,570	3.88	4.33
May	174,930	8,830	3,170	5,643	.503	.58
June	132,450	8,400	2,380	4,415	.393	.44
July	76,400	5,000	1,800	2,465	.220	.25
August	97,080	7,080	1,730	3,132	.279	.32
September	43,722	2,220	952	1,457	.130	.14
Water year 1940-41	4,018,592	135,000	952	11,010	.981	13.32

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Susquehanna River at Sunbury, Pa.

Location.- Water-stage recorder, lat. 40°58'55", long. 76°48'20", at highway bridge at Sunbury, Northumberland County, 1 mile upstream from Shamokin Creek. Datum of gage is 419.00 feet above mean sea level, adjustment of 1907.

Drainage area.- 18,300 square miles.

Records available.- October 1937 to September 1941 in reports of U. S. Geological Survey. June 1918 (revised) to September 1937 (gage heights only), October 1937 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 212,000 second-feet Apr. 7 (gage height, 13.58 feet); minimum, 1,550 second-feet Sept. 30 (gage height, 0.32 foot).
1918-41: Maximum discharge, 556,000 second-feet Mar. 19, 1936 (gage height, 26.85 feet, from floodmark), from rating curve extended above 360,000 second-feet; minimum, 1,220 second-feet Sept. 25-27, 1939 (gage height, 0.23 foot).
Maximum stage known prior to 1918, 22.5 feet in March 1865 (discharge not determined).

Remarks.- Records fair except those for period of ice effect, which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,880	6,740	12,700	97,600	9,800	9,800	46,300	16,000	5,240	4,500	5,240	5,050
2	6,320	8,660	12,800	77,200	9,800	9,000	52,600	14,800	5,910	4,620	8,810	4,270
3	6,040	16,400	12,500	60,600	10,000	9,400	67,000	13,500	6,400	4,620	9,500	3,770
4	5,760	17,500	11,600	51,000	10,000	13,300	73,800	12,700	7,150	5,710	8,460	3,450
5	5,220	17,500	11,400	44,800	9,400	15,500	87,400	11,800	9,260	8,300	9,420	3,560
6	4,840	17,000	10,600	38,800	8,600	20,800	154,000	11,300	19,100	7,150	7,220	3,300
7	4,600	15,000	8,660	33,300	8,400	*24,400	207,000	10,800	27,400	6,120	5,640	3,160
8	5,420	13,300	9,390	28,800	9,200	26,200	182,000	10,800	24,400	6,920	4,680	3,400
9	7,100	12,200	11,900	25,600	9,600	22,600	136,000	10,900	19,200	7,750	4,040	4,160
10	7,320	11,500	16,700	22,500	9,400	19,700	106,000	11,100	14,800	6,920	3,510	4,100
11	6,740	10,800	17,300	21,000	8,500	18,600	87,400	11,400	11,800	6,400	3,160	4,040
12	7,180	10,700	18,600	20,000	8,600	18,000	75,500	12,000	9,860	5,910	3,020	4,270
13	7,400	11,700	20,800	18,500	10,000	16,600	67,000	12,300	8,700	6,050	2,970	3,450
14	6,810	12,000	27,400	17,500	11,500	16,400	59,000	12,100	7,980	6,780	2,840	2,930
15	6,110	17,400	43,300	14,500	15,500	17,300	51,000	10,900	7,820	5,910	2,930	2,750
16	5,550	26,800	43,300	12,500	17,000	19,200	47,800	10,000	7,820	5,120	5,830	2,590
17	5,220	29,400	44,800	11,500	16,500	21,400	44,800	9,590	7,900	4,560	8,620	2,500
18	5,030	28,100	*54,200	13,000	18,500	22,000	40,300	9,340	8,300	4,270	6,120	2,420
19	4,900	25,000	54,200	14,000	18,800	18,600	35,300	8,860	9,950	4,210	7,000	2,350
20	4,780	22,000	44,800	15,000	17,500	19,700	35,300	8,540	13,400	4,210	5,770	2,240
21	4,660	19,700	38,800	13,000	16,000	21,400	36,000	8,780	12,700	4,870	4,930	2,130
22	4,600	18,600	33,300	11,500	14,600	23,800	34,600	8,380	10,400	5,570	4,210	2,090
23	4,480	18,000	30,000	10,000	13,200	28,100	31,400	7,750	8,460	5,180	3,930	2,060
24	4,300	18,000	27,400	12,000	13,000	32,000	28,800	7,380	7,300	4,560	3,820	1,990
25	4,240	17,200	24,400	12,000	12,000	41,800	26,200	7,080	6,850	4,160	3,980	1,900
26	4,190	16,300	22,600	11,500	11,500	60,600	24,400	6,780	6,260	3,710	4,990	1,870
27	4,140	15,800	21,400	11,500	11,000	65,400	22,000	6,400	5,640	3,510	6,480	1,830
28	4,080	15,100	25,000	11,300	10,500	62,200	20,200	6,260	4,990	3,350	6,480	1,770
29	4,020	13,900	57,300	11,000		63,800	18,600	6,050	4,500	3,350	8,380	1,740
30	4,300	13,100	110,000	10,500		60,600	17,300	5,700	4,270	3,260	7,520	1,690
31	5,690		114,000	10,000		51,000		5,310		3,510	6,050	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	167,920	7,400	4,020	5,417	0.296	0.34
November	495,400	29,400	6,740	16,513	.902	1.01
December	991,150	114,000	8,660	31,973	1.75	2.01
Calendar year 1940	10,013,340	354,000	2,710	27,359	1.50	20.35
January	762,000	97,600	10,000	24,581	1.34	1.55
February	338,400	18,800	8,400	12,086	.660	.69
March	869,200	65,400	9,000	28,039	1.53	1.77
April	1,915,000	207,000	17,300	63,833	3.49	3.89
May	304,600	16,000	5,310	9,826	.537	.62
June	303,760	27,400	4,270	10,125	.553	.62
July	161,060	8,300	3,260	5,195	.284	.33
August	175,550	9,500	2,840	5,663	.309	.36
September	86,830	5,050	1,690	2,894	.158	.18
Water year 1940-41	6,570,870	207,000	1,690	18,002	.984	13.37

* Winter discharge measurement made on this day. Stage-discharge relation affected by ice Jan. 10 to Mar. 3.

Susquehanna River at Harrisburg, Pa.

Location.- Water-stage recorder, lat. 40°15'10", long. 76°52'30", at Nagle Street, 500 feet upstream from sanitary dam; water-stage recorder at Market Street Bridge, 3,700 feet upstream from sanitary dam; and wire-weight gage at Walnut Street Bridge, 500 feet upstream from Market Street Bridge; in Harrisburg, Dauphin County. Datum of gages is 290.04 feet above mean sea level, datum of 1929.

Drainage area.- 24,100 square miles.

Records available.- October 1890 to September 1941.

Average discharge.- 51 years, 34,310 second-feet.

Extremes.- Maximum discharge during year, 244,000 second-feet Apr. 7 (gage height, 13.03 feet at Nagle Street and 14.35 feet at Walnut Street); minimum, 2,330 second-feet Sept. 29 (gage height, 2.83 feet at Nagle Street and 2.88 feet at Walnut Street).
1890-1941: Maximum discharge, 740,000 second-feet Mar. 19, 1936 (gage height, 29.23 feet at Nagle Street and 30.33 feet at Walnut Street); minimum, 1,600 second-feet Nov. 29, 1930 (gage height, 2.48 feet at Nagle Street and 2.56 feet at Walnut Street).
Maximum stage known prior to 1890, 26.8 feet at Walnut Street June 2, 1889 (discharge, about 699,000 second-feet).

Remarks.- Records excellent except those for periods of ice effect, which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,100	7,620	16,300	131,000	13,200	14,300	59,800	20,500	8,010	6,350	5,500	7,750
2	9,520	11,800	16,300	107,000	13,000	13,500	58,300	19,000	8,400	6,350	6,480	6,720
3	8,960	19,000	16,500	84,000	13,000	13,500	56,700	17,800	7,880	7,360	9,800	5,850
4	8,400	23,400	15,600	68,800	13,000	18,000	84,000	16,500	8,960	8,010	11,500	5,380
5	8,010	23,000	15,000	59,800	13,800	23,000	97,000	15,800	12,200	10,500	9,520	5,260
6	7,360	22,000	15,000	53,600	14,800	26,000	150,000	14,800	35,000	16,700	10,600	5,030
7	7,230	20,300	13,900	46,100	15,400	28,000	230,000	14,300	49,000	14,600	8,820	5,150
8	7,360	18,000	13,400	39,200	13,400	30,000	232,000	14,100	43,300	12,200	7,490	5,380
9	8,400	16,100	14,300	34,000	11,500	31,800	186,000	13,900	32,800	11,600	6,480	5,030
10	9,380	14,800	15,400	31,600	12,200	28,500	143,000	14,100	25,300	12,700	5,620	5,260
11	9,660	14,100	19,800	28,000	13,200	27,000	117,000	14,100	20,700	11,200	5,030	6,100
12	9,100	13,700	20,700	25,500	13,000	26,000	97,000	14,300	16,900	10,800	4,680	6,100
13	9,100	14,300	23,200	24,000	13,000	27,000	86,700	14,800	14,800	10,800	4,150	5,500
14	9,240	15,600	26,700	22,500	15,200	28,000	75,800	14,800	13,500	11,000	4,150	5,260
15	8,820	19,400	37,400	21,000	25,000	30,000	65,800	14,400	12,800	10,700	4,470	4,260
16	8,400	32,800	53,600	18,000	30,000	31,600	59,800	13,500	12,500	9,380	5,380	3,940
17	7,750	36,600	53,600	16,500	27,000	36,600	55,100	12,800	12,300	8,540	6,020	3,620
18	7,230	37,900	62,900	16,000	25,000	40,600	52,000	12,000	13,000	7,880	11,600	3,360
19	6,980	35,300	68,800	17,000	23,000	35,300	44,700	11,800	13,200	7,230	9,100	3,450
20	6,720	30,300	64,400	17,500	23,000	28,900	40,600	11,000	14,400	6,480	8,400	3,360
21	6,600	26,700	52,000	18,000	22,000	30,300	42,000	10,700	17,300	6,350	7,880	3,280
22	6,600	24,100	44,700	16,000	20,500	35,300	42,000	10,800	16,700	6,480	7,100	3,200
23	6,480	22,300	39,200	14,500	19,000	42,200	39,200	10,600	13,900	7,230	6,720	3,110
24	6,480	21,600	35,300	13,800	17,000	46,100	35,300	9,800	12,000	7,360	6,100	2,770
25	6,350	21,400	32,800	15,500	17,500	52,000	32,800	9,380	10,700	6,600	5,620	2,640
26	6,350	20,300	29,600	15,800	16,500	67,300	30,300	8,960	9,520	6,100	5,500	2,580
27	6,220	20,100	29,800	14,800	16,000	84,000	27,700	8,540	8,820	5,620	6,100	2,640
28	6,100	19,000	32,800	14,600	15,200	81,300	25,000	8,400	8,010	5,260	8,010	2,640
29	5,850	18,200	53,600	14,600		81,300	23,200	8,270	7,100	4,680	8,400	2,460
30	6,350	16,900	122,000	14,300		81,300	21,600	7,880	6,850	5,030	9,380	2,460
31	6,600		148,000	13,800		71,600		7,750		5,380	9,520	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	237,700	10,100	5,850	7,668	0.318	0.37
November	636,620	37,900	7,620	21,220	.880	.98
December	1,202,600	148,000	13,400	38,790	1.61	1.86
Calendar year 1940	12,939,870	406,000	3,940	35,350	1.47	19.98
January	1,026,800	131,000	13,800	33,120	1.37	1.58
February	484,400	30,000	11,500	17,300	.718	.75
March	1,210,300	84,000	13,500	39,040	1.62	1.87
April	2,310,400	232,000	21,600	77,010	3.20	3.57
May	395,380	20,500	7,750	12,750	.529	.61
June	485,850	49,000	6,850	16,200	.672	.75
July	266,470	16,700	4,680	8,596	.357	.41
August	225,120	11,600	4,150	7,262	.301	.35
September	129,540	7,750	2,460	4,318	.179	.20
Water year 1940-41	8,611,180	232,000	2,460	23,590	.979	13.30

Note.- Discharge computed on basis of partial gage-height record Dec. 29, 30, Jan. 1. Stage-discharge relation affected by ice Jan. 11 to Feb. 5, Feb. 15 to Mar. 14.

Susquehanna River at Marietta, Pa.

Location.- Water-stage recorder, lat. 40°03'15", long. 76°31'50", 420 feet upstream from Chickies Creek and 1 mile downstream from Marietta, Lancaster County. Datum of gage is 200.00 feet above mean sea level, datum of 1929.

Drainage area.- 25,990 square miles.

Records available.- October 1931 to September 1941.

Average discharge.- 10 years, 33,330 second-feet.

Extremes.- Maximum discharge during year, 249,000 second-feet Apr. 8 (gage height, 47.59 feet); minimum, 2,390 second-feet Sept. 29 (gage height, 31.60 feet); minimum daily, 2,580 second-feet Sept. 28, 29.
1931-41: Maximum discharge, 787,000 second-feet Mar. 19, 1936 (gage height, 60.73 feet), from rating curve extended above 450,000 second-feet; minimum, 618 second-feet Sept. 26, 1932 (gage height, 30.89 feet), when York Haven power plant was shut down in order to obtain current-meter measurements at low water; minimum daily, 1,380 second-feet Sept. 26, 1932.
Maximum stage known prior to 1931, 58.3 feet June 2, 1889, from floodmark (discharge, about 700,000 second-feet).

Remarks.- Records excellent except those for periods of ice effect, which are good. Discharge below 8,000 second-feet regulated by Metropolitan Edison Co. plant at York Haven. Accuracy of the records for the entire period has been verified independently by the Pennsylvania Water & Power Co. by comparison with records obtained at the Safe Harbor, Holtwood, and Conowingo power plants downstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,700	7,920	18,700	137,000	17,600	18,700	69,600	23,100	8,460	7,160	5,660	9,390
2	12,200	16,500	18,700	116,000	16,500	15,000	63,300	21,600	9,630	6,760	6,090	7,790
3	14,200	23,900	19,400	95,700	17,000	16,600	69,600	20,100	9,150	7,160	8,300	6,760
4	10,600	24,600	16,000	79,500	16,200	20,100	84,800	18,700	9,880	10,100	11,400	6,190
5	9,590	26,300	16,000	68,000	15,400	24,600	97,600	18,000	13,100	10,900	11,200	5,830
6	8,680	24,600	15,000	57,300	15,800	27,100	139,000	16,600	24,300	16,000	10,400	5,670
7	8,230	23,100	14,400	51,500	18,000	29,900	222,000	16,300	52,900	17,300	10,600	5,520
8	8,680	20,800	15,300	43,500	21,100	30,900	241,000	15,300	50,100	14,700	8,680	5,680
9	10,100	18,700	15,300	37,400	15,800	32,900	198,000	15,300	38,600	13,700	7,160	5,660
10	10,600	17,000	16,600	34,000	13,600	32,900	157,000	15,300	29,000	13,400	6,570	5,150
11	10,600	16,000	20,800	30,900	14,300	34,000	126,000	15,300	23,100	13,100	5,660	5,660
12	10,400	15,600	23,900	29,000	16,100	35,100	105,000	15,300	19,400	11,400	5,480	6,570
13	9,630	16,300	24,600	27,100	16,800	32,900	92,000	15,600	17,000	11,400	4,830	6,010
14	10,100	17,300	28,000	24,600	20,100	34,000	83,000	16,000	15,300	11,700	4,370	5,660
15	10,100	29,200	34,700	22,100	28,000	35,100	74,500	16,000	14,000	11,400	4,480	5,660
16	9,150	36,200	55,900	17,700	34,000	43,500	66,500	15,600	14,000	10,900	5,260	4,520
17	8,680	43,500	64,900	15,600	30,900	47,400	60,300	14,700	13,400	9,630	5,660	3,930
18	8,010	42,200	68,000	18,300	27,100	39,800	57,300	13,700	13,700	8,920	8,430	3,930
19	7,370	38,600	74,500	27,100	20,400	34,000	51,500	12,600	14,400	8,230	12,300	3,790
20	7,160	34,000	69,600	18,500	18,300	34,000	46,100	12,600	14,700	7,160	9,630	3,520
21	7,580	29,900	60,300	15,900	17,500	35,100	43,500	12,000	17,000	6,960	9,150	3,380
22	6,760	27,100	50,100	18,200	20,100	39,800	44,800	11,700	18,700	6,760	7,790	3,790
23	7,000	24,600	44,800	20,200	21,900	43,500	43,500	12,600	16,600	6,960	7,160	3,350
24	6,820	23,100	38,600	20,300	21,000	50,100	39,800	11,700	14,000	7,790	6,760	3,300
25	6,640	23,900	35,100	17,800	21,900	55,800	36,200	10,100	12,300	7,790	6,570	3,650
26	6,380	22,300	32,900	16,500	23,900	66,500	34,000	9,880	10,900	6,760	6,380	3,380
27	6,570	23,100	31,900	14,400	22,300	86,500	30,900	9,630	9,880	6,010	6,380	2,920
28	6,380	23,100	37,400	16,000	20,800	88,300	28,000	9,390	8,920	6,010	7,160	2,580
29	6,310	21,600	56,000	17,800		84,800	25,400	9,150	8,010	5,320	8,920	2,580
30	6,570	20,100	110,000	17,600		84,800	23,900	8,920	7,370	4,990	8,920	2,770
31	8,010		150,000	16,900		79,500		8,680		5,480	10,900	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	270,800	14,200	6,310	8,735	0.336	0.39
November	731,120	43,500	7,920	24,370	.938	1.05
December	1,277,400	150,000	14,400	41,210	1.59	1.83
Calendar year 1940	14,043,640	428,000	4,720	38,370	1.48	20.10
January	1,142,400	137,000	14,400	36,850	1.42	1.63
February	562,400	34,000	13,600	20,090	.773	.80
March	1,333,200	88,300	15,000	15,000	1.65	1.91
April	2,454,100	241,000	23,900	81,800	3.15	3.51
May	441,450	23,100	8,680	14,240	.548	.63
June	527,800	52,800	7,370	17,590	.677	.76
July	291,850	17,300	4,990	9,415	.362	.42
August	238,250	12,300	4,370	7,685	.296	.34
September	144,590	9,390	2,580	4,820	.185	.21
Water year 1940-41	9,415,360	241,000	2,580	25,800	.993	13.48

Note.- Stage-discharge relation affected by ice Jan. 15 to Feb. 13, Feb. 19-25.

Tioga River at Tioga, Pa.

Location.- Water-stage recorder, lat. 41°54'30", long. 77°07'45", 150 feet upstream from highway bridge in Tioga, Tioga County, and three-quarters of a mile upstream from Crooked Creek.

Drainage area.- 282 square miles.

Records available.- June 1938 to September 1941.

Extremes.- Maximum discharge during year, 6,930 second-feet Apr. 5 (gage height, 7.42 feet); minimum, 9.0 second-feet Sept. 29 (gage height, 1.18 feet).
1938-41: Maximum discharge, 16,200 second-feet Mar. 31, 1940 (gage height, 10.48 feet); minimum daily, 5.6 second-feet Sept. 1, 1939.

Remarks.- Records good except those for periods of backwater, which are fair.

Cooperation.- Records furnished by U. S. Geological Survey, Albany, N. Y.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	52	89	563	66	44	956	130	58	40	121	16
2	39	52	91	445	66	54	1,160	122	58	35	71	14
3	36	72	80	388	62	68	1,280	114	51	27	43	13
4	34	62	68	357	56	700	1,420	106	56	28	32	14
5	31	53	*74	262	50	175	4,580	100	370	32	27	16
6	30	52	69	245	52	180	3,720	98	275	28	23	20
7	28	52	78	200	64	130	2,270	96	158	27	21	15
8	27	50	98	*175	62	96	1,610	108	114	30	18	13
9	26	47	100	160	58	84	1,300	108	86	27	17	11
10	26	45	101	145	54	94	1,120	106	71	23	15	11
11	24	47	183	135	54	84	995	93	63	25	16	9.8
12	23	64	145	125	56	82	825	80	58	54	27	11
13	23	148	395	116	58	74	682	76	60	38	27	11
14	21	100	283	76	82	80	569	71	58	31	22	11
15	21	111	185	90	220	86	466	67	58	25	24	10
16	23	116	218	86	145	102	388	96	60	24	43	9.8
17	23	104	486	90	116	135	349	125	60	84	45	9.8
18	23	96	250	102	94	125	299	108	60	69	40	9.8
19	23	91	190	96	78	116	642	88	58	113	31	9.8
20	22	100	175	74	72	116	441	78	47	94	27	9.8
21	21	140	201	68	68	122	337	69	38	54	22	9.8
22	21	148	192	74	64	210	314	65	34	42	21	9.8
23	21	126	171	83	*60	*540	267	98	31	34	20	9.8
24	21	116	135	69	58	1,550	264	93	30	30	18	9.8
25	21	114	130	72	56	1,220	240	76	25	27	18	9.8
26	21	86	135	70	54	939	210	67	24	27	23	9.8
27	22	89	218	68	52	1,030	194	63	23	23	27	9.8
28	21	102	1,670	*66	48	954	173	60	21	23	24	9.8
29	21	96	1,690	62		694	155	56	20	24	20	9.8
30	34	89	1,300	58		441	141	51	23	25	18	9.8
31	52		792	66		446		47		74	17	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	819	52	21	26.4	0.094	0.11
November	2,620	148	45	87.3	.310	.35
December	9,992	1,690	68	322	1.14	1.31
Calendar year 1940	132,946	9,690	17	363	1.29	17.53
January	4,686	563	58	151	.535	.62
February	2,025	220	48	72.3	.256	.27
March	10,771	1,550	44	347	1.23	1.42
April	27,367	4,580	141	912	3.23	3.60
May	2,715	130	47	87.6	.311	.36
June	2,148	370	20	71.6	.254	.28
July	1,237	113	23	39.9	.141	.16
August	918	121	15	29.6	.105	.12
September	342.8	20	9.8	11.4	.040	.04
Water year 1940-41	65,640.8	4,580	9.8	180	.638	8.64

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3, 4, 15, 18-20, 24-26, Jan. 6-22, Jan. 25 to Mar. 24. Backwater from leaves Oct. 7 to Nov. 3 and from weeds June 20 to July 16, Aug. 22 to Sept. 30; discharge computed on basis of discharge measurements and records for nearby stations.

Cowanesque River at Nelson, Pa.

Location.- Water-stage recorder, lat. 41°58'25", long. 77°14'35", 50 feet downstream from upper highway bridge at Nelson, Tioga County, and half a mile downstream from Thornbottom Creek.

Drainage area.- 266 square miles.

Records available.- June 1938 to July 1941 (discontinued).

Extremes.- Maximum discharge during period Oct. 1, 1940 to July 3, 1941, 8,280 second-feet Apr. 5 (gage height, 7.87 feet); minimum daily, 9 second-feet July 1, 3.
1938-41: Maximum discharge, 18,500 second-feet Mar. 31, 1940 (gage height, 11.17 feet); minimum daily, 0.7 second-foot Aug. 31 to Sept. 4, Sept. 9, 1939.

Remarks.- Records good except those for periods of backwater and those for periods of no gage-height record, all of which are fair.

Cooperation.- Records furnished by U. S. Geological Survey, Albany, N. Y.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	21	44	389	43	31	988	85	27	a9		
2	a20	21	54	324	a41	34	968	77	34	a10		
3	a19	25	47	312	a39	68	1,100	70	27	a9		
4	a17	25	43	262	35	1,250	1,090	64	29			
5	16	25	*52	141	32	320	5,120	59	231			
6	16	23	50	155	33	258	3,140	58	148			
7	15	21	56	120	36	165	1,700	54	83			
8	15	21	227	98	37	122	1,200	53	60			
9	15	21	214	*92	34	94	932	52	46			
10	15	22	168	86	32	98	792	52	35			
11	14	20	320	80	32	92	674	48	29			
12	13	21	210	74	34	84	572	40	26			
13	12	a34	963	68	38	70	a490	36	30			
14	11	a31	360	50	48	74	425	35	44			
15	12	35	244	60	155	78	360	32	60			
16	14	36	260	58	135	82	297	46	155			
17	15	37	455	58	102	88	305	68	92			
18	15	37	195	64	78	74	243	81	125			
19	14	39	170	84	60	80	730	58	72			
20	14	47	160	62	52	80	420	44	50			
21	13	75	193	56	46	84	312	38	39			
22	12	74	171	46	44	*90	344	32	32			
23	13	65	145	56	*42	178	260	34	26			
24	14	57	107	52	40	1,390	229	36	21			
25	14	54	114	48	39	1,870	196	30	18			
26	14	39	114	47	38	1,190	168	25	16			
27	15	42	235	45	37	1,360	147	23	14			
28	14	44	1,470	*43	34	1,100	128	23	a12			
29	14	42	1,140	39		724	108	22	a11			
30	16	42	898	39		458	94	20	a10			
31	19		520	44		499		19				

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	463	23	11	14.9	0.056	0.06
November	1,096	75	20	36.5	.137	.15
December	9,399	1,470	43	303	1.14	1.31
Calendar year 1940	104,325.2	10,700	7.0	285	1.07	14.55
January	3,152	389	39	102	.383	.44
February	1,416	155	32	50.6	.190	.20
March	12,185	1,870	31	393	1.48	1.71
April	23,532	5,120	94	784	2.95	3.29
May	1,414	85	19	45.6	.171	.20
June	1,602	231	10	53.4	.201	.22
July 1-3	28	10	9	9.33	.035	.00
August						
September						
Water year						

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage, discharge measurement, and records for nearby stations.
Note.- Stage-discharge relation affected by ice Nov. 26, Nov. 29 to Dec. 7, Dec. 14, 16, 18-20, Jan. 6 to Mar. 4, Mar. 7-22, Backwater from weeds Oct. 1 to Nov. 20, June 8 to July 5; discharge computed on basis of discharge measurements and records for nearby stations.

Troups Creek at Knoxville, Pa.

Location.- Water-stage recorder, lat. 41°58'05", long. 77°26'55", three-quarters of a mile upstream from Knoxville, Tioga County, 1 mile downstream from Crotch Run, and 1½ miles upstream from mouth.

Drainage area.- 66.5 square miles.

Records available.- June 1938 to July 1941 (discontinued).

Extremes.- Maximum discharge during period, 1,660 second-feet Apr. 5 (gage height, 5.92 feet); minimum, 1.7 second-feet July 1 (gage height, 1.51 feet).
1938-41: Maximum discharge, 5,530 second-feet Mar. 31, 1940 (gage height, 8.96 feet); minimum daily, 0.2 second-foot Sept. 15-20, 22-25, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair.

Cooperation.- Records furnished by U. S. Geological Survey, Albany, N. Y.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	5.8	13	75	9.6	7.8	268	13	6.7	1.8		
2	5.8	6.6	17	61	9.4	8.6	271	12	6.8	2.0		
3	5.0	8.2	14	65	9.0	88	298	10	4.8			
4	4.2	7.4	12	47	8.6	340	283	9.4	9.6			
5	3.8	5.8	14	20	7.8	102	1,020	8.8	70			
6	3.6	5.8	11	33	8.2	74	602	8.8	25			
7	3.6	6.6	25	27	8.6	54	320	8.2	14			
8	4.2	7.0	82	22	8.6	39	228	7.6	9.2			
9	3.8	6.6	41	20	7.8	29	186	7.6	6.8			
10	3.6	6.2	70	19	7.4	28	162	8.2	5.2			
11	3.2	6.2	63	16	7.8	26	134	7.0	4.2			
12	3.0	10	98	14	8.6	22	115	5.8	4.2			
13	2.7	12	210	14	11	17	101	5.5	6.2			
14	2.4	10	76	11	16	18	89	5.2	13.0			
15	3.2	11	56	12	47	20	75	4.9	28			
16	4.6	12	81	12	37	21	60	8.6	49			
17	4.2	12	92	14	25	22	63	13	54			
18	3.8	12	54	17	18	18	49	16	48			
19	3.6	12	43	18	14	19	155	8.8	22			
20	3.2	20	35	14	12	19	80	6.8	13			
21	3.2	27	42	12	10	20	55	5.5	9.8			
22	3.0	20	32	11	9.4	21	70	5.2	7.4			
23	3.0	18	27	13	9.0	44	47	4.9	5.6			
24	2.7	16	22	12	8.6	378	41	4.6	4.8			
25	3.0	15	23	11	8.6	361	34	4.0	3.8			
26	3.6	11	35	11	8.2	277	28	3.4	3.1			
27	3.6	12	66	10	8.2	330	24	3.1	2.6			
28	3.2	13	314	9.6	7.8	268	21	3.1	2.2			
29	3.0	12	241	8.6		179	17	3.3	2.1			
30	5.0	12	168	9.0		122	15	3.3	2.0			
31	7.0		103	10		169		3.1				

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	118.4	7.0	2.4	3.82	0.057	0.07
November	339.2	27	5.8	11.3	.170	.19
December	2,180	314	11	70.3	1.06	1.22
Calendar year 1940	25,203.9	2,720	.7	68.9	1.04	14.09
January	648.2	75	8.6	20.9	.314	.36
February	351.2	47	7.4	12.5	.188	.20
March	3,141.4	378	7.8	101	1.52	1.75
April	4,911	1,020	15	164	2.47	2.76
May	218.7	16	3.1	7.05	.106	.12
June	448.1	70	2.0	14.9	.224	.25
July						
August						
September						
Water year						

Note.- Stage-discharge relation affected by ice Nov. 26, Nov. 29 to Dec. 10, Dec. 14, 15, 18, 19, 24, 25, Jan. 5 to Mar. 23.

Towanda Creek near Monroeton, Pa.

Location.- Chain gage, lat. 41°42'35", long. 76°29'00", at highway bridge 1½ miles upstream from South Branch of Towanda Creek and 1½ miles southwest of Monroeton Bradford County. Datum of gage is 774.14 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 214 square miles.

Records available.- October 1940 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1914 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years (1914-16, 1920-41), 277 second-feet.

Extremes.- Maximum discharge during year, 8,640 second-feet Apr. 5 (gage height, 7.8 feet, from graph based on gage readings); minimum observed, 3.1 second-feet Sept. 25-27, 29, 30 (gage height, 0.31 foot).
1914-41: Maximum discharge, about 15,800 second-feet Nov. 16, 1926 (gage height, 11.0 feet, from graph based on gage readings); minimum observed, 0.7 second-foot Sept. 15, 17, 21, 22, 1932.

Remarks.- Records fair except those for period of ice effect, which are poor. Gage read twice daily. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	119	161	433	76	66	787	102	33	33	260	11
2	59	189	182	426	68	64	1,150	96	36	32	121	10
3	57	214	195	346	66	68	1,260	93	30	24	74	8.1
4	52	161	147	299	64	350	1,420	84	78	65	55	7.8
5	45	141	253	246	*60	200	5,050	84	411	49	44	7.5
6	41	146	193	179	64	160	4,340	81	372	33	32	14
7	38	153	234	114	60	120	2,090	81	152	28	25	14
8	98	166	216	127	92	90	1,480	79	100	30	20	11
9	81	132	173	118	110	88	1,150	78	79	24	17	7.5
10	68	117	179	130	96	86	940	73	56	20	16	7.2
11	60	105	249	125	84	78	795	72	49	19	14	11
12	52	176	199	100	76	76	630	65	50	33	23	8.4
13	48	206	384	110	70	74	520	62	47	41	23	7.2
14	47	176	322	86	82	76	398	59	47	29	18	6.5
15	45	572	257	80	400	88	322	50	51	19	24	5.8
16	65	542	482	82	250	120	278	70	47	15	47	5.5
17	63	384	905	88	200	220	253	83	51	39	45	5.5
18	62	299	*426	94	150	170	219	73	407	60	31	5.0
19	59	242	398	96	130	160	278	62	216	78	24	4.8
20	50	242	278	80	115	160	257	54	125	89	21	5.0
21	50	249	299	76	94	170	223	46	91	54	17	4.6
22	48	234	278	78	86	190	199	36	72	34	17	4.2
23	45	212	242	76	82	500	185	44	62	26	18	4.0
24	43	185	223	64	78	1,090	185	42	54	22	16	3.5
25	45	176	202	62	74	1,340	173	39	44	19	21	3.3
26	49	167	192	72	70	930	155	33	35	17	25	3.1
27	48	205	427	66	*68	993	142	31	30	14	20	3.3
28	44	188	1,430	64	67	*910	125	36	24	12	16	3.5
29	43	167	1,740	68		685	114	34	23	53	16	3.3
30	138	155	1,350	72		426	109	25	23	46	14	3.1
31	151		670	82		398		23		144	12	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,854	151	38	59.8	0.279	0.32
November	6,420	572	105	214	1.00	1.12
December	12,886	1,740	161	416	1.94	2.24
Calendar year 1940	122,083.5	10,200	8.8	334	1.56	21.22
January	4,139	433	62	134	.626	.72
February	2,932	400	60	105	.491	.51
March	10,146	1,340	64	327	1.53	1.76
April	25,227	5,050	109	841	3.93	4.38
May	1,890	102	23	61.0	.285	.33
June	2,895	411	23	96.5	.451	.50
July	1,201	144	12	38.7	.181	.21
August	1,126	260	12	36.3	.170	.20
September	198.7	14	3.1	6.62	.031	.03
Water year 1940-41	70,914.7	5,050	3.1	194	.907	12.32

*Winter discharge measurement made on this day.
Note.- Stage discharge relation affected by ice Jan. 10 to Mar. 23.

North Branch of Mehoopany Creek near Lovelton, Pa.

Location.- Water-stage recorder, lat. 41°31'55", long. 76°09'10", 0.4 mile upstream from bridge on State Highway 87, 1½ miles upstream from mouth, and about 1½ miles downstream Lovelton, Wyoming County.

Drainage area.- 49.9 square miles.

Records available.- December 1940 to September 1941.

Extremes.- Maximum discharge during period, 624 second-feet Apr. 6 (gage height, 4.26 feet), from rating curve extended above 154 second-feet; minimum, 0.5 second-foot Sept. 17 (gage height, 1.47 feet).

Remarks.- Records good except those for period of ice effect, which are poor. Some regulation at low flow by gristmill upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				97	16	14	111	19	14	6.2	12	0.9
2				77	15	13	156	18	10	5.6	8.0	.8
3				71	14	14	140	16	8.2	5.6	4.4	.8
4				64	14	60	157	15	14	12	3.3	.8
5				58	13	42	274	15	136	9.5	2.5	.9
6				40	14	34	499	15	78	6.5	2.1	2.1
7				25	13	26	337	14	51	6.2	1.7	1.5
8				27	19	20	230	20	35	7.8	1.5	1.1
9				26	24	19	188	17	25	5.9	1.3	.9
10				26	20	18	176	19	19	4.4	1.1	.8
11				25	18	17	173	15	16	4.1	1.2	.8
12				22	16	16	158	14	14	4.4	3.2	.8
13			65	23	15	15	140	13	14	4.1	2.2	.7
14			46	19	18	15	119	12	15	3.3	1.3	.7
15			48	17	76	19	93	12	14	2.9	2.2	.6
16			58	18	54	25	72	17	25	2.5	5.4	.6
17			108	19	43	45	68	16	34	3.3	4.8	.5
18			71	20	34	36	56	15	72	2.9	3.1	.6
19			58	21	28	34	60	12	36	3.3	2.5	.6
20			58	17	25	*33	51	11	26	2.9	2.3	.6
21			58	16	20	36	43	10	21	2.3	1.9	.6
22			51	17	18	43	43	11	16	2.1	2.1	.6
23			43	16	17	60	37	12	15	1.9	2.3	.6
24			38	14	17	82	37	10	13	1.7	1.7	.7
25			34	13	16	196	32	8.6	11	1.6	2.5	.7
26			34	16	15	176	30	7.8	9.1	2.6	3.1	.8
27			45	15	*15	125	28	7.4	7.8	1.9	2.5	.8
28			140	*15	14	119	26	8.2	7.1	2.5	1.9	.8
29			163	15		92	23	7.4	6.8	9.1	1.5	.8
30			173	16		78	20	6.8	6.5	8.0	1.1	.9
31			125	18		68		6.2		18	1.0	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December 13-31	1,416	173	34	74.5	1.49	1.06
Calendar year						
January	883	97	13	28.5	.571	.66
February	621	76	13	22.2	.445	.46
March	1,590	196	13	51.3	1.03	1.19
April	3,577	499	20	119	2.38	2.67
May	400.4	20	6.2	12.9	.259	.30
June	769.5	136	6.5	25.6	.513	.57
July	155.1	18	1.6	5.00	.100	.12
August	87.7	12	1.0	2.83	.057	.07
September	24.4	2.1	.5	.81	.016	.02
Water year						

Peak discharge.- Apr. 6 (5:30 p.m.) 624 sec.-ft.; June 5 (11:30 a.m.) 221 sec.-ft.; June 18 (5 a.m.) 149 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Discharge based on staff gage readings made twice daily Dec. 13 to Apr. 3. Stage-discharge relation affected by ice Jan. 7 to Mar. 23.

Tunkhannock Creek at Dixon, Pa.

Location.- Water-stage recorder, lat. 41°33'30", long. 75°53'40", at highway bridge at Dixon, Wyoming County, 3 miles northeast of Tunkhannock and 4 miles upstream from mouth. Datum of gage is 610.50 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 383 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1914 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years (1918-41), 527 second-feet.

Extremes.- Maximum discharge during year, 5,500 second-feet Apr. 6 (gage height, 6.95 feet); minimum, 18 second-feet Sept. 30 (gage height, 1.09 feet).
1914-41: Maximum discharge, 20,300 second-feet Mar. 31, 1940 (gage height, 13.50 feet), from rating curve extended above 3,900 second-feet; minimum, 9.0 second-feet Aug. 12, 1930 (gage height, 0.73 foot).

Remarks.- Records good except those for periods of backwater and those for periods of no gage-height record, all of which are fair. Some regulation by natural and artificial lakes and gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	a268	356	1,260	210	243	1,700	177	86	280	380	50
2	62	a922	342	1,010	190	230	2,150	168	136	233	243	48
3	68	a995	323	900	181	193	2,000	149	87	159	157	47
4	91	a595	213	860	163	426	1,860	136	89	148	123	40
5	81	a479	288	659	171	456	2,390	138	309	168	100	38
6	67	a438	275	575	209	400	4,490	154	350	136	82	44
7	66	413	275	468	187	337	3,090	140	196	120	71	42
8	605	373	297	385	294	283	2,080	185	143	116	61	40
9	436	324	310	375	356	279	1,580	210	123	106	56	35
10	286	282	271	400	305	267	1,310	209	95	89	50	36
11	218	264	337	361	271	247	1,100	187	78	77	50	50
12	185	300	337	296	243	243	916	160	71	69	56	54
13	150	373	922	342	221	239	778	138	75	61	51	42
14	142	343	708	248	260	240	750	126	78	62	50	37
15	123	1,990	471	232	856	274	701	113	86	53	48	33
16	123	1,420	671	235	694	386	575	113	a120	47	71	34
17	123	1,030	1,740	251	603	645	589	111	149	53	78	35
18	113	884	951	271	480	432	516	123	362	56	73	28
19	a103	729	757	279	456	444	504	111	243	54	59	27
20	a94	652	701	232	370	430	450	100	166	48	50	26
21	89	589	680	217	337	414	370	91	130	50	54	25
22	81	522	645	221	301	518	351	86	106	42	48	24
23	74	468	575	217	279	905	314	87	164	40	48	23
24	77	438	450	185	288	1,400	351	82	345	39	48	22
25	74	426	420	180	288	1,360	328	71	185	35	66	22
26	79	351	405	214	288	1,290	283	71	136	35	137	21
27	75	332	589	190	256	1,740	263	68	102	31	123	20
28	74	380	2,190	184	251	1,980	239	69	87	35	93	20
29	68	323	2,530	197		1,840	214	82	76	138	68	19
30	280	342	2,500	197		1,260	193	69	78	142	61	18
31	348		1,670	232		1,140		64		594	53	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,518	605	62	146	0.381	0.44
November	17,245	1,990	264	575	1.50	1.67
December	23,199	2,530	213	748	1.95	2.25
Calendar year 1940	197,541	15,300	28	540	1.41	19.18
January	11,873	1,260	180	383	1.00	1.15
February	9,008	856	163	322	.841	.87
March	20,541	1,980	193	663	1.73	1.99
April	32,435	4,490	193	1,081	2.82	3.15
May	3,788	210	64	122	.319	.37
June	4,451	362	71	148	.386	.43
July	3,316	594	31	107	.279	.32
August	2,708	380	48	87.4	.228	.26
September	1,000	54	18	33.3	.087	.10
Water year 1940-41	134,082	4,490	18	367	.958	13.00

a No gage-height record; discharge computed on basis of records for Lackawaxen River at Hawley.

Note.- Backwater from moss and leaves on control Oct. 8 to Nov. 15, Sept. 1-30; discharge computed on basis of gage heights and three discharge measurements.

Lackawanna River at Archbald, Pa.

Location.- Water-stage recorder, lat. 41°30'20", long. 75°32'30", in Archbald, Lackawanna County, half a mile upstream from White Oak Run and Gilmartin Street Bridge. Datum of gage is 889.17 feet above mean sea level (unadjusted).

Drainage area.- 108 square miles.

Records available.- January 1940 to September 1941.

Extremes.- Maximum discharge during year, 2,050 second-feet Apr. 6 (gage height, 4.98 feet); minimum, 11 second-feet Sept. 8 (gage height, 1.13 feet); minimum daily, 27 second-feet Sept. 28.

1940-41: Maximum discharge, 4,680 second-feet Mar. 31, 1940 (gage height, 7.36 feet); minimum, that of Sept. 8, 1941; minimum daily, that of Sept. 28, 1941.

Remarks.- Records good. Regulation at low flow by mine pumps upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	139	140	438	77	87	592	106	76	144	81	52
2	67	557	127	352	78	81	796	101	66	129	72	45
3	96	477	122	281	80	94	898	95	62	92	57	48
4	106	313	111	272	77	128	995	79	80	104	56	38
5	60	259	116	237	75	141	1,020	93	274	98	51	38
6	49	231	110	199	71	136	1,710	96	220	83	50	43
7	65	209	118	174	96	125	1,330	90	161	80	51	33
8	194	190	105	151	129	127	958	110	125	92	48	37
9	132	201	112	155	103	125	776	123	107	75	42	39
10	119	162	123	168	99	116	649	164	86	70	46	48
11	106	165	162	171	95	109	568	116	80	67	47	48
12	97	210	150	168	100	118	475	111	81	68	49	34
13	86	213	166	150	99	143	433	99	86	59	41	38
14	88	202	128	131	107	158	433	96	100	56	44	37
15	84	603	107	86	135	163	365	92	85	57	59	38
16	94	455	146	106	132	177	318	91	116	55	58	32
17	80	330	263	101	124	195	304	87	126	58	38	35
18	79	280	216	112	121	160	250	89	162	51	42	36
19	73	239	198	100	112	130	254	85	137	60	50	33
20	59	231	202	100	106	133	228	73	105	49	43	30
21	70	263	190	87	104	141	185	66	89	48	40	29
22	64	216	188	97	102	151	180	68	71	50	49	36
23	68	202	178	99	89	186	187	72	148	51	37	36
24	68	220	154	98	94	256	160	70	138	48	32	35
25	68	182	151	89	98	283	147	60	95	43	87	33
26	68	148	186	84	91	265	145	60	81	43	76	32
27	57	141	240	90	92	318	162	57	76	37	59	28
28	64	147	702	86	85	390	119	58	65	53	50	27
29	61	145	905	84		448	114	52	67	56	48	31
30	152	139	776	74		365	105	44	68	86	46	33
31	169		550	86		393		52		100	45	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,706	194	49	87.3	0.808	0.93
November	7,469	603	139	249	2.31	2.57
December	7,142	905	105	230	2.13	2.46
Calendar year	-	-	-	-	-	-
January	4,626	438	74	149	1.38	1.59
February	2,771	135	71	99.0	.917	.95
March	5,842	448	81	188	1.74	2.01
April	14,856	1,710	105	495	4.58	5.12
May	2,655	164	44	85.6	.793	.91
June	3,233	274	62	108	1.00	1.11
July	2,162	144	37	69.7	.645	.74
August	1,594	87	32	51.4	.476	.55
September	1,102	52	27	36.7	.340	.38
Water year 1940-41	56,158	1,710	27	154	1.43	19.32

Peak discharge.- Nov. 2 (1:30 p.m.) 905 sec.-ft.; Nov. 15 (6 a.m.) 668 sec.-ft.; Dec. 28 (3:30 p.m.) 1,020 sec.-ft.; Apr. 6 (7 p.m.) 2,050 sec.-ft.

Lackawanna River at Old Forge, Pa.

Location.- Water-stage recorder, lat. 41°21'35", long. 75°44'40", 150 feet upstream from Delaware, Lackawanna & Western Railroad bridge in Old Forge, Lackawanna County, half a mile upstream from Ascension Brook. Datum of gage is 595.08 feet above mean sea level (unadjusted).

Drainage area.- 332 square miles.

Records available.- October 1938 to September 1941.

Extremes.- Maximum discharge during year, 4,130 second-feet Apr. 6 (gage height, 5.61 feet), from rating curve extended above 2,300 second-feet; minimum, 83 second-feet Sept. 28 (gage height, 1.97 feet); minimum daily, 95 second-feet Sept. 28.

1938-41: Maximum discharge, 21,600 second-feet Mar. 31, 1940 (gage height, 11.86 feet), from rating curve extended above 4,100 second-feet; minimum, 70 second-feet Sept. 17, 1939 (gage height, 1.95 feet); minimum daily, 85 second-feet Sept. 17, 1939.

Maximum stage known, about 17.0 feet July 28, 1934 (discharge not determined).

Remarks.- Records good except those for period of no gage-height record, which are fair. Regulation at low flow by mills and mine pumps upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	209	583	378	858	233	241	1,210	303	318	228	222	180
2	204	1,310	340	758	229	254	1,750	308	231	277	226	158
3	268	1,350	330	682	217	250	1,870	289	222	231	180	162
4	305	866	300	653	230	396	1,930	265	240	248	188	156
5	244	698	305	576	225	346	2,060	252	720	235	194	145
6	198	611	290	494	217	335	3,550	270	698	214	166	158
7	227	520	300	425	278	320	3,090	261	556	210	158	a120
8	639	468	310	378	351	330	2,190	336	428	286	152	a130
9	534	449	305	373	286	335	1,780	340	351	234	152	a135
10	455	401	290	390	245	320	1,510	416	306	195	126	a160
11	419	395	337	384	258	315	1,330	345	265	187	139	a160
12	373	494	335	384	263	305	1,100	294	258	202	199	a120
13	351	590	414	364	254	351	962	284	276	187	136	a130
14	330	555	425	310	320	414	879	265	282	183	126	a120
15	330	1,550	340	268	419	456	790	261	299	184	192	117
16	335	1,270	456	286	368	474	698	288	375	180	298	123
17	305	958	788	295	325	548	671	252	470	180	171	114
18	295	795	668	325	346	576	645	231	518	183	148	117
19	281	690	590	315	300	562	637	235	428	191	187	109
20	258	618	569	268	300	504	579	236	335	172	169	112
21	258	639	562	245	290	431	511	240	294	162	136	101
22	237	562	534	254	295	488	469	226	248	155	139	109
23	237	527	488	276	272	541	469	242	310	152	148	120
24	233	534	425	258	258	660	469	231	411	155	120	112
25	225	494	413	268	263	788	422	213	310	176	442	109
26	237	413	431	268	263	788	388	195	254	169	302	106
27	233	413	481	250	250	890	367	201	226	136	280	106
28	225	413	1,080	254	259	1,040	340	268	214	175	226	95
29	225	373	1,520	245		1,150	313	201	199	203	191	110
30	712	390	1,420	217		975	299	192	206	267	191	112
31	705		1,050	229		932		169		339	180	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,087	712	198	325	0.979	1.13
November	19,929	1,550	373	664	2.00	2.23
December	16,474	1,520	290	531	1.60	1.85
Calendar year 1940	218,653	15,800	123	597	1.80	24.49
January	11,550	858	217	373	1.12	1.29
February	7,814	419	217	279	.840	.88
March	16,315	1,150	241	526	1.58	1.83
April	33,278	3,550	299	1,109	3.34	3.73
May	8,109	416	169	262	.789	.91
June	10,248	720	199	342	1.03	1.15
July	6,296	339	136	203	.611	.71
August	5,884	442	126	190	.572	.66
September	3,806	180	95	127	.383	.43
Water year 1940-41	149,790	3,550	95	410	1.23	16.80

Peak discharge.- Nov. 2 (5:30 p.m.) 2,060 sec.-ft.; Nov. 15 (8 a.m.) 1,750 sec.-ft.; Dec. 29 (2:30 a.m.) 1,640 sec.-ft.; Apr. 6 (7:30 p.m.) 4,130 sec.-ft.

a No gage-height record; discharge computed on basis of records for nearby stations.

Toby Creek at Luzerne, Pa.

Location.- Water-stage recorder and concrete control, lat. 41°16'50", long. 75°53'50", 150 feet upstream from West Union Avenue Bridge in Luzerne, Luzerne County, and 2.2 miles upstream from mouth. Datum of gage is 574.44 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 32.4 square miles.

Records available.- August to September 1941.

Extremes.- Maximum discharge during period, 112 second-feet Sept. 10 (gage height, 1.40 feet); minimum, 1.3 second-feet Sept. 29, 30 (gage height, 0.34 foot); minimum daily, 2.1 second-feet Sept. 27.

Remarks.- Records good.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												7.3
2												7.5
3												7.2
4												7.2
5												5.9
6												5.2
7												4.2
8												4.1
9												5.2
10												22
11												20
12												7.7
13												6.5
14												5.7
15												6.8
16												5.7
17												5.2
18												4.7
19											10	4.6
20											8.0	5.0
21											6.6	5.8
22											6.7	4.6
23											7.1	4.7
24											6.6	3.7
25											58	10
26											47	7.4
27											39	2.1
28											19	4.2
29											16	3.0
30											12	2.7
31											10	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January						
February						
March						
April						
May						
June						
July						
August 19-31	246.0	58	6.6	18.9	0.583	0.28
September	195.9	22	2.1	6.53	.202	.22
Water year 1940-41	-	-	-	-	-	-

Solomon Creek at Wilkes-Barre, Pa.

Location.- Water-stage recorder and concrete control, lat. 41°13'35", long. 75°54'20", at Central Railroad of New Jersey bridge at southwest city limit of Wilkes-Barre, Luzerne County, 3¼ miles upstream from mouth. Datum of gage is 549.67 feet above mean sea level (unadjusted).

Drainage area.- 15.4 square miles.

Records available.- March 1940 to September 1941.

Extremes.- Maximum discharge during year, 233 second-feet June 16 (gage height, 1.98 feet); minimum, 0.7 second-foot Aug. 3 (gage height, 0.22 foot); minimum daily, 2.2 second-feet Aug. 3.
1940-41: Maximum discharge, 2,740 second-feet Mar. 30, 1940 (gage height, 5.48 feet), from rating curve extended above 500 second-feet; minimum, 0.6 second-foot Aug. 16, 25, 1940 (gage height, 0.14 foot); minimum daily, that of Aug. 3, 1941.
Maximum stage known, 11.4 feet, from floodmark, Sept. 16, 1933 (discharge not determined).

Remarks.- Records fair. Regulation at low flow by mine pumps upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	9.7	14	33	8.6	14	39	10	16	8.9	5.6	8.1
2	10	63	17	34	10	15	44	8.7	9.9	6.3	3.8	10
3	10	47	15	35	9.3	19	36	9.3	6.7	7.6	2.2	7.6
4	7.4	38	13	34	10	34	33	9.3	13	11	3.0	a8.4
5	6.4	31	14	27	a9.4	19	57	9.4	33	9.6	3.3	a8.4
6	5.5	29	14	26	a10	20	101	7.7	22	6.0	2.8	a7.4
7	13	25	14	22	a12	21	81	6.5	18	8.2	2.7	a6.4
8	33	21	13	22	a17	20	d66	11	16	24	4.9	a5.8
9	20	19	16	21	a15	19	d52	8.4	14	9.2	3.1	a5.4
10	20	16	15	21	a14	20	40	9.3	11	8.0	4.0	a6.6
11	18	14	13	18	a14	21	35	7.2	11	8.1	5.7	a9.5
12	16	26	16	17	a13	16	30	10	9.4	11	7.0	a6.4
13	17	21	21	17	a13	20	26	7.0	9.8	5.7	3.9	a5.4
14	13	31	22	15	a45	25	24	8.8	9.3	6.4	3.0	a5.0
15	14	85	20	13	64	33	19	9.5	15	5.4	17	a5.0
16	12	62	39	15	40	40	19	8.8	33	5.2	23	a4.8
17	12	52	49	16	33	32	19	8.5	16	5.9	6.0	a4.5
18	11	41	40	15	31	23	17	9.1	15	6.2	6.0	a4.5
19	8.0	32	34	15	26	22	17	6.6	12	4.4	7.7	a4.1
20	10	28	31	13	25	24	15	7.0	11	4.0	6.1	a3.9
21	7.3	24	27	13	24	25	11	7.0	9.1	5.8	5.6	3.3
22	7.0	24	27	14	21	23	16	5.4	8.4	6.7	5.4	4.4
23	8.8	21	22	16	18	30	14	7.9	12	5.6	4.9	3.7
24	7.4	19	22	15	21	39	18	4.7	8.3	4.3	4.0	3.7
25	8.1	17	19	12	19	53	15	6.8	6.1	4.0	22	3.8
26	5.9	16	20	12	18	48	16	5.8	5.3	3.4	13	3.2
27	6.8	17	18	14	15	55	11	6.7	5.6	4.0	15	4.0
28	9.1	16	33	12	16	59	11	5.7	4.8	6.5	12	2.6
29	7.1	15	36	11		51	10	7.0	5.9	5.0	11	3.0
30	21	15	44	11		40	10	6.1	8.9	7.8	13	4.0
31	14		40	11		40		5.8		4.2	9.6	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	366.3	33	5.5	11.8	0.766	0.88
November	874.7	85	9.7	29.2	1.90	2.11
December	738	49	13	23.8	1.55	1.78
Calendar year	-	-	-	-	-	-
January	570	35	11	18.4	1.19	1.38
February	571.3	64	8.6	20.4	1.32	1.38
March	920	59	14	29.7	1.93	2.22
April	902	101	10	30.1	1.95	2.18
May	241.0	11	4.7	7.77	.505	.58
June	375.5	33	4.8	12.5	.812	.91
July	218.4	24	3.4	7.05	.458	.53
August	236.3	23	2.2	7.62	.495	.57
September	162.9	10	2.6	5.43	.353	.39
Water year 1940-41	6,176.4	101	2.2	16.9	1.10	14.91

Peak discharge.- Nov. 2 (8 a.m.) 123 sec.-ft.; Apr. 6 (12 m.) 121 sec.-ft.; June 16 (2:15 p.m.) 233 sec.-ft.; July 8 (12:45 a.m.) 158 sec.-ft.; Aug. 25 (10:15 a.m.) 126 sec.-ft.

a No gage-height record; discharge computed on basis of one discharge measurement and records for stations on Wapwallopen Creek near Wapwallopen and Fishing Creek near Bloomsburg.

d Doubtful gage-height record; discharge computed on basis of records for stations mentioned above.

Wapwallopen Creek near Wapwallopen, Pa.

Location.- Water-stage recorder, lat. 41°03'35", long. 76°05'25", at Harts Bridge, 2½ miles southeast of Wapwallopen, Luzerne County, and 3½ miles upstream from mouth. Datum of gage is 752.41 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 45.8 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1919 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1920-41), 60.5 second-feet.

Extremes.- Maximum discharge during year, 1,170 second-feet Aug. 16 (gage height, 5.77 feet); minimum, 6.0 second-feet Aug. 11 (gage height, 0.76 foot).
1919-41: Maximum discharge, 2,840 second-feet Mar. 31, 1940 (gage height, 8.84 feet), from rating curve extended above 1,300 second-feet; minimum, 1.8 second-feet Sept. 1, 1936; minimum daily, 2.2 second-feet Sept. 19, 20, 1939.

Remarks.- Records good except those for period of ice effect, which are poor. Some regulation at low flow by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	29	51	96	31	31	165	31	53	32	21	23
2	16	104	50	86	30	33	188	31	36	28	14	21
3	27	83	49	86	30	35	164	29	26	23	12	18
4	19	58	64	88	29	80	143	28	35	41	9.9	23
5	16	52	60	82	28	65	203	28	150	39	8.8	23
6	14	49	59	92	28	60	354	28	84	27	8.8	19
7	13	43	71	76	33	58	254	26	55	25	8.0	17
8	61	40	64	68	47	56	193	47	46	75	6.9	15
9	39	36	46	63	42	58	157	40	38	44	6.9	14
10	31	33	*42	53	41	50	129	49	33	30	6.6	17
11	28	32	44	49	40	54	109	35	30	25	6.1	25
12	27	65	42	46	38	52	93	32	28	26	13	17
13	23	56	71	44	38	47	82	30	29	23	10	14
14	22	61	61	43	80	47	75	29	32	20	8.4	13
15	20	222	54	42	110	55	68	27	73	18	26	12
16	23	146	91	43	80	75	63	30	158	16	406	11
17	22	118	149	44	55	60	74	31	105	15	69	9.9
18	20	102	91	43	50	*57	66	33	85	15	47	9.9
19	20	86	93	40	46	60	60	27	79	14	49	9.5
20	19	78	82	38	45	65	54	25	56	12	51	8.8
21	19	70	80	37	43	74	50	23	47	12	34	8.4
22	19	64	72	38	41	87	45	22	42	11	29	8.4
23	17	59	65	38	38	112	41	25	38	10	28	8.8
24	17	58	58	38	36	130	51	26	40	10	24	8.0
25	16	55	55	34	36	137	46	22	33	10	53	7.6
26	18	53	55	33	*36	150	41	20	29	14	53	7.2
27	16	76	55	33	35	188	39	18	26	9.9	54	7.2
28	16	53	102	32	33	199	36	17	23	11	36	7.2
29	13	46	120	31		178	34	17	22	25	32	6.6
30	42	46	146	31		140	32	16	44	23	28	6.6
31	45		109	*31		136		15		44	26	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	712	61	13	23.0	0.502	0.58
November	2,073	222	29	69.1	1.51	1.68
December	2,251	149	42	72.6	1.59	1.83
Calendar year 1940	22,964.6	1,630	4.1	62.7	1.37	18.65
January	1,598	96	31	51.5	1.12	1.30
February	1,219	110	28	43.5	.950	.99
March	2,629	199	31	84.8	1.85	2.13
April	3,109	354	32	104	2.27	2.52
May	857	49	15	27.6	.603	.70
June	1,575	158	22	52.5	1.15	1.28
July	727.9	75	9.9	23.5	.513	.59
August	1,185.4	406	6.1	38.2	.834	.96
September	396.1	23	6.6	13.2	.288	.32
Water year 1940-41	18,332.4	406	6.1	50.2	1.10	14.88

Peak discharge.- Nov. 15 (8 a.m.) 264 sec.-ft.; Apr. 6 (6 p.m.) 392 sec.-ft.; Aug. 16 (3:30 a.m.) 1,170 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Backwater from leaves on control Oct. 1 to Nov. 15; discharge computed on basis of gage heights and two discharge measurements. Stage-discharge relation affected by ice Jan. 11 to Mar. 20.

Fishing Creek near Bloomsburg, Pa.

Location.- Water-stage recorder, lat. 41°04'40", long. 76°26'00", at highway bridge 0.2 mile upstream from Deerlick Run, 0.9 mile west of Orangeville, and 5.5 miles northeast of Bloomsburg, Columbia County. Datum of gage is 540.68 feet above mean sea level (Reading Co. bench mark).

Drainage area.- 274 square miles.

Records available.- June 1938 to September 1941.

Extremes.- Maximum discharge during year, 3,680 second-feet Apr. 6 (gage height, 5.87 feet); minimum, 13 second-feet Aug. 12 (gage height, 1.96 feet); minimum daily, 33 second-feet Aug. 10, 11.
1938-41: Maximum discharge 18,100 second-feet Mar. 31, 1940 (gage height, 12.08 feet, from floodmark in gage well), by contracted-opening method; minimum, 7.6 second-feet July 19, 1939 (gage height, 1.71 feet); minimum daily, 18 second-feet July 22, 23, 1939.

Remarks.- Records good except those for period of ice effect, which are fair. Regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	297	302	1,280	187	b170	780	178	126	65	247	f174
2	163	1,150	302	990	149	b180	1,030	170	132	102	159	142
3	213	1,330	269	852	149	209	1,050	167	99	93	110	122
4	189	936	224	758	136	493	1,090	149	112	154	88	167
5	159	750	247	607	144	410	2,000	157	412	255	72	139
6	145	670	235	495	*234	366	3,340	152	325	163	59	149
7	158	565	228	403	159	292	2,330	145	209	145	52	129
8	519	470	242	353	204	278	1,790	210	159	345	44	113
9	403	403	238	348	287	287	1,420	221	151	286	39	93
10	321	369	229	337	192	255	1,200	182	112	182	33	116
11	273	348	234	302	224	242	1,060	156	96	139	33	486
12	245	415	238	257	235	238	911	145	89	139	50	213
13	225	415	354	279	167	225	772	136	93	174	44	149
14	203	385	409	210	244	234	677	123	88	145	38	122
15	195	1,220	374	222	656	298	586	127	73	113	93	116
16	194	1,260	624	209	530	415	489	124	107	93	597	102
17	180	981	*1,500	242	420	454	470	139	116	82	242	85
18	167	796	1,170	251	385	348	409	129	126	96	149	72
19	163	649	894	229	338	408	426	119	126	82	132	68
20	159	565	780	209	b360	346	380	135	107	70	167	68
21	155	502	691	204	b320	470	332	104	90	65	139	54
22	140	451	621	185	b250	656	292	84	78	59	110	54
23	136	397	537	197	b220	850	269	94	78	50	104	52
24	140	386	451	169	*b200	928	292	96	90	46	88	48
25	138	369	409	191	b190	1,050	269	76	82	44	493	46
26	135	332	409	189	b190	1,070	242	82	72	50	796	44
27	134	342	572	170	b180	1,190	229	76	61	44	614	42
28	129	326	1,540	163	b170	1,160	217	74	59	68	403	39
29	126	307	2,400	170		1,040	197	66	59	65	297	39
30	307	292	2,780	190		836	185	54	59	78	f238	36
31	409		1,790	159		728		61		344	a200	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,386	519	126	206	0.752	0.87
November	17,678	1,330	292	589	2.15	2.40
December	21,293	2,780	224	687	2.51	2.89
Calendar year 1940	210,753	14,500	38	576	2.10	28.62
January	10,820	1,280	159	349	1.27	1.47
February	7,120	656	136	254	.927	.97
March	16,126	1,190	170	520	1.90	2.19
April	24,734	3,340	185	824	3.01	3.36
May	3,931	221	54	127	.464	.53
June	3,566	412	59	119	.434	.48
July	3,836	345	44	124	.453	.52
August	5,930	796	33	191	.697	.80
September	3,279	486	36	109	.398	.45
Water year 1940-41	124,699	3,340	33	342	1.25	16.93

Peak discharge.- Nov. 2 (7 p.m.) 1,790 sec.-ft.; Nov. 15 (5 p.m.) 1,530 sec.-ft.; Dec. 30 (3 a.m.) 3,100 sec.-ft.; Apr. 6 (3:30 a.m.) 3,680 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.
f Discharge based on partial gage-height record.

Little Fishing Creek at Eyers Grove, Pa.

Location.- Water-stage recorder, lat. 41°04'50", long. 76°30'40", at bridge on State Highway 42, 0.7 mile southeast of Eyers Grove, Columbia County, 3 miles southeast of Millville, and 5.1 miles upstream from mouth. Datum of gage is 558.18 feet above mean sea level (unadjusted).

Drainage area.- 56.5 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 1,040 second-feet Apr. 5 (gage height, 4.87 feet), from rating curve extended above 340 second-feet; minimum, 0.2 second-foot Aug. 11 (gage height, 1.07 feet); minimum daily, 0.3 second-foot Aug. 11.

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	31	32	196	19	38	191	21	24	5.2	11	15
2	13	250	28	160	18	39	292	22	16	9.3	7.3	13
3	17	196	27	122	17	45	255	20	9.7	4.8	2.3	7.5
4	11	115	25	90	16	110	198	19	27	24	5.0	24
5	4.5	90	26	70	17	90	573	19	126	19	2.7	20
6	9.3	82	26	50	*20	80	752	20	61	7.2	2.3	26
7	10	45	25	35	18	64	426	19	41	9.2	2.6	15
8	51	52	26	34	22	62	285	33	29	53	1.9	11
9	30	32	26	37	33	64	195	24	22	23	1.9	11
10	21	29	25	35	23	58	141	21	18	15	.7	20
11	17	29	26	32	22	54	115	17	14	13	.3	125
12	17	44	27	29	21	52	94	18	13	18	3.5	47
13	30	45	30	30	20	50	80	17	14	9.5	6.1	31
14	11	59	55	25	40	52	67	14	16	9.6	2.8	21
15	13	389	79	25	200	66	60	14	14	6.6	22	17
16	9.8	322	*195	24	120	95	53	18	13	6.4	91	15
17	8.7	183	396	31	90	82	51	18	16	7.2	17	10
18	13	115	300	35	80	66	44	16	55	5.2	11	11
19	6.6	71	169	29	64	68	54	13	24	6.8	12	10
20	11	63	138	24	67	72	44	11	17	a4.0	16	7.2
21	12	55	87	25	68	100	38	11	13	a3.1	9.4	4.4
22	6.1	55	81	26	56	150	33	9.8	10	a2.8	5.2	8.8
23	8.2	43	71	23	50	200	30	8.7	9.2	a2.5	7.6	5.6
24	8.7	41	47	19	*44	230	38	12	7.5	a2.4	45	4.9
25	7.7	41	50	20	42	310	33	8.6	7.3	a2.7	88	5.2
26	6.6	38	52	21	42	304	29	8.8	5.3	a3.9	72	5.2
27	7.7	34	61	20	40	322	29	7.9	7.1	a2.6	76	6.2
28	9.3	30	390	19	38	310	26	7.5	4.8	4.9	47	2.7
29	8.7	30	652	18		258	24	6.5	2.8	7.2	31	4.0
30	56	24	650	17		178	24	4.2	5.0	4.8	23	2.2
31	38		341	18		134		7.9		22	19	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	479.5	56	4.5	15.5	0.274	0.32
November	2,633	389	24	87.8	1.55	1.73
December	4,163	652	25	134	2.37	2.74
Calendar year						
January	1,339	196	17	43.2	.765	.88
February	1,307	200	16	46.7	.827	.86
March	3,803	322	38	123	2.18	2.50
April	4,274	752	24	142	2.51	2.81
May	466.9	33	4.2	15.1	.267	.31
June	641.7	126	2.8	21.4	.379	.42
July	314.9	53	2.4	10.2	.181	.21
August	642.6	91	.3	20.7	.366	.42
September	505.9	125	2.2	16.9	.299	.33
Water year 1940-41	20,570.5	752	.3	56.4	.998	13.53

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of comparison with records for nearby streams.
Note.- Discharge based on staff gage readings made twice daily Oct. 1 to Apr. 3. Stage-discharge relation affected by ice Dec. 3-14, Jan. 4 to Mar. 23.

West Branch of Susquehanna River at Bower, Pa.

Location.- Water-stage recorder, lat. 40°53'50", long. 78°40'40", at highway bridge at Bower, Clearfield County, 4.8 miles downstream from Mahaffey and Chest Creek. Datum of gage is 1,206.39 feet above mean sea level, adjustment of 1907.

Drainage area.- 315 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 28 years, 548 second-feet.

Extremes.- Maximum discharge during year, 4,600 second-feet June 5; maximum gage height, 11.07 feet Mar. 4 (ice jam); minimum discharge, 30 second-feet Aug. 11 (gage height, 3.93 feet).
1913-41: Maximum discharge, 31,500 second-feet Mar. 18, 1936 (gage height, 19.74 feet, from floodmark in gage shelter), by slope-area method; minimum, 14 second-feet Aug. 29, 1939; minimum daily, 16 second-feet Sept. 29, Oct. 1, 6, 13, 1930, Aug. 29, Aug. 31 to Sept. 2, 1939.

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	92	357	985	300	170	950	140	318	71	132	187
2	46	502	476	991	300	160	1,200	138	365	67	78	158
3	42	351	280	1,830	270	180	1,200	129	248	64	57	121
4	38	201	180	1,400	210	1,900	1,160	121	974	124	48	228
5	38	146	240	985	180	1,500	3,360	117	3,440	204	44	335
6	36	184	220	784	250	1,000	3,250	112	2,420	121	38	494
7	37	179	584	550	270	750	2,060	114	1,130	137	34	307
8	34	151	1,510	*480	240	580	1,520	146	790	276	32	198
9	37	125	950	440	200	500	1,060	158	555	194	32	149
10	34	114	822	400	170	430	880	192	398	123	32	125
11	34	104	1,120	360	180	410	718	154	308	96	33	121
12	35	155	985	310	210	360	605	134	251	99	237	112
13	34	198	2,200	290	300	320	512	121	228	106	158	96
14	33	168	1,650	200	450	300	453	112	228	78	72	81
15	36	245	1,120	260	850	330	398	117	232	72	1,050	75
16	37	272	1,620	250	760	450	353	158	293	64	1,450	72
17	33	228	1,830	240	600	420	334	168	293	63	578	66
18	34	198	1,240	310	520	340	312	176	454	72	307	60
19	36	201	908	290	450	320	315	142	341	67	238	55
20	38	213	754	230	*380	350	293	121	225	62	439	51
21	42	222	650	190	300	500	258	108	182	55	282	49
22	42	216	536	230	270	990	228	104	156	48	184	48
23	40	190	458	800	250	1,650	210	110	136	43	149	51
24	36	215	381	700	230	2,060	248	114	123	42	123	44
25	36	268	334	570	220	2,310	238	97	110	40	166	44
26	35	219	389	470	200	1,600	201	84	99	37	1,460	40
27	36	219	517	400	190	1,320	184	81	87	33	1,450	39
28	33	258	2,630	380	180	1,280	168	86	80	32	687	37
29	35	225	2,510	340		1,160	156	90	75	34	411	38
30	101	210	1,780	330		943	149	459	71	98	286	37
31	129		1,280	320		832		311		206	219	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,305	129	33	42.1	0.134	0.15
November	6,269	502	92	209	.663	.74
December	30,511	2,630	180	984	3.12	3.60
Calendar year 1940	190,757	12,200	33	521	1.65	22.53
January	16,315	1,830	190	526	1.67	1.93
February	8,930	850	170	319	1.01	1.05
March	25,415	2,310	160	820	2.60	3.00
April	22,973	3,360	149	766	2.43	2.71
May	4,414	459	81	142	.451	.52
June	14,610	3,440	71	487	1.55	1.72
July	2,828	276	32	91.2	.290	.33
August	10,506	1,460	32	339	1.08	1.24
September	3,518	494	37	117	.371	.42
Water year 1940-41	147,594	3,440	32	404	1.28	17.41

Peak discharge.- Apr. 5 (6:30 p.m.) 4,320 sec.-ft.; June 5 (12 m.) 4,600 sec.-ft.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 7 to Mar. 22

West Branch of Susquehanna River at Karthaus, Pa.

Location.- Water-stage recorder, lat. 41°06'55", long. 78°06'40", 900 feet upstream from highway bridge at Karthaus, Clearfield County, 1,200 feet upstream from Mosquito Creek, and 3.3 miles downstream from Moshannon Creek. Datum of gage is 830.31 feet above mean sea level (unadjusted). Prior to Oct. 1, 1940, chain gage at same datum at highway bridge 900 feet downstream.
Drainage area.- 1,462 square miles, including that of Mosquito Creek.
Records available.- February 1940 to September 1941 in reports of U. S. Geological Survey. October 1918 to September 1920 (gage heights only), February 1940 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Records include flow of Mosquito Creek.
Extremes.- Maximum discharge during year, 19,600 second-feet Apr. 6; maximum gage height, 8.95 feet Mar. 5 (ice jam); minimum discharge, 140 second-feet Sept. 30 (gage height, 0.65 foot).
1918-20, 1940-41: Maximum discharge, 50,900 second-feet Apr. 1, 1940 (gage height, 12.4 feet, from graph based on gage readings); minimum, that of Sept. 30, 1941.
Maximum stage known, 23.0 feet, from floodmark, Mar. 18, 1936 (discharge, about 135,000 second-feet.
Remarks.- Records good except those for period of ice effect and those for periods of no gage-height record, all of which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	368	486	1,200	5,430	1,420	b800	4,230	956	1,300	415	377	731
2	343	945	1,400	4,640	1,430	b790	4,970	910	1,890	373	589	601
3	324	1,930	1,560	5,320	1,370	b880	5,560	855	1,440	373	436	533
4	310	1,560	1,070	5,430	1,200	2,420	5,780	812	1,280	453	333	498
5	295	1,150	991	4,640	965	7,450	10,600	779	4,720	550	282	864
6	277	974	1,210	3,660	882	4,640	17,100	739	10,500	855	233	1,560
7	272	956	1,310	*f2,940	1,150	3,470	12,000	723	6,460	746	199	1,620
8	272	956	2,830	f2,380	1,140	2,860	8,720	723	4,040	984	183	1,160
9	254	846	3,940	2,300	919	2,540	6,890	746	2,940	1,280	167	812
10	250	796	3,200	2,300	829	2,300	5,430	892	2,220	993	163	649
11	241	723	3,560	2,000	882	2,220	4,440	910	1,740	746	151	576
12	233	796	3,940	1,800	974	2,070	3,750	838	1,430	739	179	522
13	237	928	5,090	1,620	1,070	1,860	3,290	731	1,260	557	207	470
14	224	1,020	7,140	1,500	1,170	1,680	2,860	677	1,180	533	415	420
15	228	1,120	5,540	1,200	1,450	1,740	2,540	642	1,170	486	556	383
16	216	1,280	5,320	1,130	2,070	2,000	2,220	663	1,160	415	a1,800	333
17	212	1,400	8,160	1,340	2,220	2,380	2,000	700	1,210	388	a2,780	310
18	212	1,280	6,890	1,450	1,740	2,070	1,860	754	1,450	368	1,360	291
19	212	1,200	5,200	1,450	1,380	1,800	2,070	723	2,280	388	855	264
20	216	1,170	4,230	1,270	1,190	1,860	1,930	677	1,680	394	642	241
21	224	1,240	3,750	1,040	*b1,080	2,380	1,800	601	1,220	399	686	216
22	224	1,280	3,290	1,090	b1,010	a2,900	1,620	557	974	333	829	220
23	220	1,250	2,780	1,500	b970	a4,000	1,500	539	838	295	557	228
24	224	1,230	2,380	2,070	b930	a5,000	1,450	557	746	272	453	207
25	220	1,300	2,070	2,000	b890	a7,200	1,420	539	656	254	431	199
26	233	1,370	2,000	1,930	b870	a6,800	1,370	516	582	241	1,060	191
27	216	1,340	2,460	1,680	b850	5,780	1,250	481	522	220	4,860	183
28	212	1,250	5,710	1,620	b830	5,780	1,160	470	470	212	3,090	171
29	212	1,260	11,600	1,620		5,540	1,080	436	442	228	1,800	151
30	291	1,210	9,010	1,500		4,970	1,010	458	436	300	1,210	144
31	404		6,890	1,500		4,440		802		373	919	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,876	404	212	254	0.174	0.20
November	34,246	1,930	486	1,142	.781	.87
December	125,721	11,600	991	4,056	2.77	3.20
Calendar year						
January	71,350	5,430	1,040	2,301	1.57	1.81
February	32,881	2,220	829	1,174	.803	.84
March	102,620	7,450	790	3,310	2.26	2.61
April	122,000	17,100	1,010	4,067	2.78	3.10
May	21,406	956	436	691	.473	.54
June	58,236	10,500	436	1,941	1.33	1.48
July	15,163	1,280	212	489	.334	.39
August	27,802	4,860	151	897	.614	.71
September	14,748	1,620	144	492	.337	.38
Water year 1940-41	634,049	17,100	144	1,737	1.19	16.13

Peak discharge.- Dec. 29 (7 a.m.) 12,000 sec.-ft.; Apr. 6 (6:15 a.m.) 19,600 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of one discharge measurement and records for stations downstream.
b Stage-discharge relation affected by ice.
f Discharge based on partial gage-height record.

West Branch of Susquehanna River at Renovo, Pa.

Location.- Water-stage recorder, lat. 41°18'50", long. 77°44'45", at highway bridge at Renovo, Clinton County, 1 mile upstream from Paddy Run. Datum of gage is 633.99 feet above mean sea level (unadjusted).
Drainage area.- 2,975 square miles.
Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1908 to September 1915, October 1915 to September 1919 (gage heights only), October 1919 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Gage-height records collected July 1895 to December 1903 and since October 1905 are contained in reports of U. S. Weather Bureau.
Average discharge.- 29 years (1908-15, 1919-41), 4,661 second-feet.
Extremes.- Maximum discharge during year, 43,800 second-feet Apr. 6; maximum gage height, 14.37 feet Mar. 5 (ice jam); minimum discharge, 184 second-feet Sept. 30 (gage height, -0.29 foot).
1895-1903, 1905-41: Maximum discharge, 236,000 second-feet Mar. 18, 1936 (gage height, 29.39 feet, from floodmark in gage shelter), by slope-area method; minimum, 80 second-feet Dec. 6, 1908 (gage height, -1.10 feet).
Maximum stage known prior to 1895, 27.3 feet June 1, 1889, from floodmark (discharge, about 211,000 second-feet).
Remarks.- Records good except those for period of no gage-height record and those for periods of ice effect, all of which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	643	683	2,220	11,800	2,850	1,620	8,300	2,470	1,440	810	870	968
2	588	939	2,650	9,800	2,900	1,600	10,100	2,380	1,560	718	762	800
3	551	2,800	2,700	9,500	2,750	1,850	12,200	2,220	1,620	619	800	683
4	529	2,830	2,880	9,800	2,400	3,000	12,600	2,040	2,330	675	611	619
5	500	2,040	2,400	8,300	1,950	12,900	22,000	1,910	7,810	810	522	635
6	472	1,690	2,700	6,950	1,800	7,700	40,600	1,830	14,600	902	465	1,330
7	445	1,720	2,920	5,920	2,300	6,050	28,300	1,720	10,800	1,110	398	1,960
8	438	1,690	5,900	4,750	2,300	5,180	19,300	1,700	7,200	1,260	341	1,690
9	425	1,550	7,460	4,300	1,850	4,560	14,600	1,740	5,300	1,830	306	1,160
10	425	1,410	6,180	3,900	1,700	4,320	11,400	1,770	4,080	1,720	276	860
11	398	1,300	6,550	*3,600	1,780	4,200	9,500	1,830	3,220	1,250	260	700
12	379	1,360	6,950	3,300	1,950	3,960	8,300	1,660	2,650	1,500	288	643
13	373	1,750	10,600	3,100	2,150	3,520	7,100	1,490	2,300	1,410	426	588
14	366	1,830	15,000	2,600	2,300	3,220	6,180	1,380	2,220	1,210	250	544
15	360	2,040	11,800	2,400	2,900	3,420	5,550	1,280	2,040	979	570	486
16	354	2,130	10,100	2,250	4,050	3,960	5,050	1,310	2,130	820	1,010	445
17	348	2,220	15,400	2,600	4,400	4,200	4,680	1,360	1,960	744	3,630	385
18	335	2,220	14,600	2,800	3,500	3,520	4,320	1,410	2,380	902	2,300	360
19	341	2,040	11,000	2,650	2,750	3,480	6,070	1,350	2,740	1,230	1,340	341
20	335	a2,000	9,200	2,500	2,350	3,320	7,700	1,250	2,830	2,390	990	311
21	335	a2,150	7,700	2,100	2,120	3,960	6,950	1,120	2,040	1,450	780	288
22	341	a2,200	6,680	2,200	2,020	4,800	5,800	1,030	1,580	1,100	879	260
23	341	a2,150	5,800	3,050	1,950	6,680	5,050	1,040	1,320	860	891	250
24	341	a2,100	4,920	4,000	1,880	9,200	4,680	1,140	1,320	727	667	255
25	341	a2,250	4,320	3,750	1,800	12,600	4,200	1,040	1,160	627	574	250
26	348	a2,400	4,080	3,250	1,750	12,600	3,740	935	968	558	611	223
27	360	a2,450	4,560	3,350	1,700	11,000	3,420	880	830	508	3,570	214
28	360	2,380	9,520	3,300	1,680	10,700	3,120	870	753	465	4,320	210
29	354	2,220	22,300	3,300		10,700	2,830	830	691	472	2,650	197
30	425	2,220	20,300	3,000		9,800	2,650	762	780	586	1,770	193
31	515		15,400	3,000		8,600		762		935	1,250	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12,666	643	335	409	0.137	0.16
November	58,762	2,830	683	1,959	.658	.73
December	254,790	22,300	2,220	8,219	2.76	3.19
Calendar year 1940	1,787,257	84,800	320	4,883	1.64	22.35
January	137,120	11,800	2,100	4,423	1.49	1.71
February	65,830	4,400	1,680	2,351	.790	.82
March	186,220	12,900	1,600	6,007	2.02	2.33
April	286,290	40,600	2,650	9,543	3.21	3.58
May	44,509	2,470	762	1,436	.483	.56
June	92,652	14,600	691	3,088	1.04	1.16
July	31,177	2,390	465	1,006	.338	.39
August	34,377	4,320	250	1,109	.373	.43
September	17,848	1,960	193	595	.200	.22
Water year 1940-41	1,222,241	40,600	193	3,349	1.13	15.28

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of one discharge measurement and records for stations at Karthaus and Williamsport.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 8 to Mar. 5.

West Branch of Susquehanna River at Williamsport, Pa.

Location.- Water-stage recorder, lat. 41°14'15", long. 76°59'55", at highway bridge at Williamsport, Lycoming County, 350 feet upstream from Hageman Run. Datum of gage is 494.74 feet above mean sea level, datum of 1929.
Drainage area.- 5,682 square miles.
Records available.- March 1895 to December 1913, October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. March 1895 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 46 years, 8,743 second-feet.
Extremes.- Maximum discharge during year, 72,500 second-feet Apr. 6; maximum gage height, 15.46 feet Apr. 6, affected by backwater from Loyalsock Creek; minimum discharge, 434 second-feet Sept. 29, 30.
1895-1941: Maximum discharge, 264,000 second-feet Mar. 18, 1936 (gage height, 33.57 feet, from floodmark in gage shelter), by slope-area method; minimum, 231 second-feet Sept. 12, 13, 1932; minimum daily, 250 second-feet June 30, July 10, 1912.
Maximum stage known prior to 1895, 32.4 feet June 1, 1889 (discharge, about 252,000 second-feet).
Remarks.- Records fair except those for periods of ice effect and those for period of no gage-height record, all of which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,240	880	3,180	24,400	3,790	2,520	15,600	5,160	1,510	1,530	f1,700	2,150
2	1,080	1,160	3,180	19,400	3,660	2,420	18,900	4,750	2,000	1,790	1,910	1,750
3	985	1,970	3,380	17,000	3,380	2,410	22,900	4,480	2,480	1,580	1,660	1,510
4	866	3,590	3,050	16,600	3,180	3,250	24,900	4,100	2,790	1,600	1,510	1,420
5	836	3,730	2,810	15,200	*2,800	6,390	f29,200	3,850	6,670	1,860	1,370	1,290
6	793	2,850	2,360	12,600	2,620	10,500	f66,900	3,620	17,400	1,900	1,160	1,260
7	822	2,270	2,640	10,500	2,480	10,800	61,000	3,500	20,400	1,900	1,030	1,580
8	693	2,210	3,120	8,700	2,770	8,550	42,100	3,380	13,200	2,560	925	2,580
9	651	2,190	7,820	7,820	3,290	7,380	37,400	3,200	9,600	2,940	808	2,600
10	637	2,080	9,000	7,530	3,120	7,100	24,900	3,230	7,530	3,180	707	2,100
11	609	1,970	8,700	7,240	2,600	6,950	20,400	3,160	5,970	2,920	679	1,610
12	623	1,880	10,200	6,530	2,300	6,810	f17,000	3,120	4,880	3,010	679	1,340
13	595	2,320	10,800	6,110	2,480	6,670	a15,600	2,900	4,100	4,350	693	1,150
14	582	2,680	19,900	5,420	3,060	6,250	a13,400	2,700	3,850	3,730	851	1,100
15	568	2,770	19,900	3,850	3,620	6,390	a11,900	2,500	3,620	2,920	1,280	1,030
16	528	3,640	16,100	3,070	4,620	7,380	a10,300	2,500	3,500	2,340	3,850	955
17	500	3,620	*19,900	4,100	4,480	8,550	a9,320	2,520	3,730	2,060	2,900	880
18	487	3,500	25,400	5,020	4,880	6,390	a8,800	2,540	3,070	2,120	4,750	808
19	487	3,380	20,900	5,290	5,160	6,250	a8,690	2,460	3,850	2,140	3,620	735
20	487	3,180	16,100	4,880	4,270	6,530	a11,800	2,360	4,220	2,680	2,500	707
21	487	3,010	13,600	3,500	3,520	7,820	a13,200	2,190	4,220	3,970	1,880	679
22	487	3,140	11,800	2,790	3,280	9,600	a12,000	2,020	3,250	2,900	1,600	651
23	500	3,380	10,200	3,230	3,190	11,500	a10,500	1,970	2,580	2,270	1,440	609
24	474	3,380	8,700	3,760	2,980	14,400	a9,270	1,930	2,440	1,900	1,530	554
25	474	3,270	7,680	3,860	*2,900	20,400	a8,720	1,950	2,310	1,630	1,480	568
26	487	3,500	6,950	4,350	2,780	23,900	7,960	1,860	2,100	1,390	1,460	528
27	460	3,620	7,100	4,360	2,700	22,900	7,240	1,770	1,810	1,260	1,950	487
28	487	3,250	10,200	4,080	2,600	22,400	6,670	1,600	1,580	1,150	4,750	474
29	514	3,380	32,600	3,890		21,900	6,110	1,540	1,410	1,080	5,830	460
30	665	3,230	40,700	3,700		19,900	5,560	1,490	1,480	1,090	3,970	474
31	707		32,600	3,580		17,400		1,390		f925	2,870	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	19,811	1,240	460	639	0.112	0.13
November	85,030	3,730	880	2,834	.499	.56
December	390,570	40,700	2,360	12,600	2.22	2.56
Calendar year 1940	3,232,482	142,000	460	8,832	1.55	21.15
January	232,360	24,400	2,790	7,495	1.32	1.52
February	92,510	5,160	2,300	3,304	.581	.61
March	321,610	23,900	2,410	10,370	1.83	2.11
April	558,240	66,900	5,560	18,610	3.27	3.65
May	85,740	5,160	1,390	2,766	.487	.56
June	147,550	20,400	1,410	4,918	.866	.97
July	68,675	4,350	925	2,215	.390	.45
August	63,342	5,830	679	2,043	.360	.41
September	34,039	2,600	460	1,135	.200	.22
Water year 1940-41	2,099,477	66,900	460	5,752	1.01	13.75

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations upstream.
f Discharge based on partial gage-height record.
Note.- Stage-discharge relation affected by ice Jan. 24 to Feb. 14, Feb. 20 to Mar. 3.

West Branch of Susquehanna River at Lewisburg, Pa.

Location.- Water-stage recorder, lat. 40°58'05", long. 76°52'25", at Market Street Bridge at Lewisburg, Union County, 0.2 mile downstream from Buffalo Creek and 7.4 miles upstream from mouth. Datum of gage is 427.74 feet above mean sea level (unadjusted).
Drainage area.- 6,847 square miles.
Records available.- December 1939 to September 1941 in reports of U. S. Geological Survey. September 1913 to September 1923 (gage heights only), December 1939 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Extremes.- Maximum discharge during year, 83,800 second-feet Apr. 7 (gage height, 15.21 feet); minimum, 630 second-feet Sept. 30 (gage height, 1.00 foot).
1913-23, 1939-41: Maximum discharge, 164,000 second-feet Apr. 1, 1940 (gage height, 22.7 feet, from graph based on gage readings); minimum not determined.
Maximum stage known, 32.1 feet Mar. 19, 1936, from floodmarks (discharge not determined.
Remarks.- Records good except those for period of backwater, which are fair, and those for period of ice effect, which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,960	1,920	4,150	31,400	4,300	2,900	19,500	5,900	1,880	1,800	2,000	2,630
2	1,780	2,960	4,150	24,800	4,200	2,800	22,400	5,400	2,000	2,050	2,490	2,110
3	1,720	5,240	4,150	20,600	*3,900	2,700	27,200	5,080	2,630	2,050	2,200	1,800
4	1,600	5,080	3,720	19,500	3,700	5,400	30,200	4,920	2,850	2,110	1,860	1,680
5	1,470	5,560	3,860	18,000	3,300	10,000	35,300	4,450	5,350	2,440	1,720	1,620
6	1,400	4,920	3,500	15,100	3,100	11,500	72,200	4,300	15,300	2,470	1,510	1,590
7	1,370	4,000	3,260	12,800	3,000	12,000	76,000	4,150	20,600	2,330	1,330	1,490
8	1,660	3,580	3,860	10,700	3,300	10,000	50,000	4,150	15,600	3,420	1,230	2,030
9	1,720	3,420	6,010	9,250	3,800	9,050	38,100	4,000	10,500	3,720	1,110	2,560
10	1,660	3,210	9,050	8,450	3,500	8,060	30,200	4,000	7,860	3,470	1,020	2,330
11	1,470	3,050	9,050	8,250	3,100	7,670	25,400	3,860	6,230	3,340	936	2,030
12	1,380	3,260	9,860	7,670	2,900	7,110	21,800	3,720	5,080	3,050	950	1,620
13	1,330	3,720	11,100	6,750	3,200	7,110	18,500	3,500	4,450	3,720	964	1,380
14	1,280	4,000	17,300	6,060	3,700	6,750	16,000	3,310	4,000	4,000	992	1,230
15	1,250	6,110	21,800	5,080	4,300	6,930	14,200	3,100	3,860	3,280	1,220	1,190
16	1,220	8,450	*18,500	4,150	4,900	8,250	12,400	3,050	3,860	2,750	3,510	1,120
17	1,190	7,300	23,600	4,150	5,000	9,650	11,100	3,100	3,860	2,400	4,000	1,060
18	1,200	6,400	29,600	5,400	5,600	9,050	10,500	3,150	4,000	2,220	3,360	1,010
19	1,160	5,560	25,400	5,900	5,800	6,930	10,500	3,020	4,920	2,240	4,300	950
20	1,110	5,080	20,000	5,400	5,200	7,670	14,200	2,950	4,760	2,310	3,100	867
21	1,120	4,760	16,500	4,450	4,300	9,450	15,600	2,750	4,600	3,180	2,380	841
22	1,110	4,600	14,200	3,720	3,700	11,100	14,200	2,560	3,860	3,260	1,940	802
23	1,100	4,600	12,400	3,720	3,500	13,300	12,400	2,470	3,180	2,540	1,760	802
24	1,080	4,600	10,700	4,300	3,400	16,000	11,100	2,400	2,800	2,130	1,660	776
25	1,100	4,600	9,050	4,300	3,300	21,200	10,500	2,350	2,680	1,880	1,940	726
26	1,100	4,450	8,250	5,080	3,200	27,200	9,250	2,330	2,470	1,660	2,090	738
27	1,100	4,760	8,450	5,080	3,100	27,200	8,450	2,200	2,220	1,470	2,730	726
28	1,100	4,600	12,300	4,700	3,000	26,600	7,670	2,110	1,980	1,420	3,140	690
29	1,080	4,300	34,000	4,400		26,600	6,930	1,980	1,800	1,370	5,900	690
30	1,330	4,300	49,300	4,200		24,200	6,400	1,880	1,760	1,330	4,600	666
31	1,800		41,600	4,100		20,600		1,800		1,550	3,310	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	41,950	1,960	1,080	1,353	0.198	0.23
November	138,390	8,450	1,920	4,613	.674	.75
December	448,670	49,300	3,260	14,470	2.11	2.44
Calendar year 1940	3,846,540	160,000	1,020	10,510	1.53	20.90
January	277,460	31,400	3,720	8,950	1.31	1.51
February	107,300	5,800	2,900	3,832	.560	.58
March	374,980	27,200	2,700	12,100	1.77	2.04
April	658,200	76,000	6,400	21,940	3.20	3.58
May	103,940	5,900	1,800	3,353	.490	.56
June	156,940	20,600	1,760	5,231	.764	.85
July	76,960	4,000	1,330	2,483	.363	.42
August	71,252	5,900	936	2,298	.336	.39
September	39,754	2,630	666	1,325	.194	.22
Water year 1940-41	2,495,796	76,000	666	6,838	.999	13.57

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 28 to Mar. 8. Backwater from North Branch of Susquehanna River Apr. 7-13; discharge computed on basis of one discharge measurement, gage-heights, and records for stations on Susquehanna River at Sunbury and North Branch of Susquehanna River at Danville.

Clearfield Creek at Dimeling, Pa.

Location.- Water-stage recorder, lat. 40°58'15", long. 78°24'25", at highway bridge at Dimeling, Clearfield County, 400 feet downstream from Little Clearfield Creek. Datum of gage is 1,145.54 feet above mean sea level, adjustment of 1912.

Drainage area.- 371 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 28 years, 566 second-feet.

Extremes.- Maximum discharge during year, 5,480 second-feet Apr. 5, June 6; maximum gage height, 9.91 feet Apr. 5; minimum discharge, 20 second-feet Sept. 27 (gage height, 3.19 feet); minimum daily discharge, 27 second-feet Sept. 27.
1913-41: Maximum discharge, 30,600 second-feet Mar. 18, 1936 (gage height, 18.49 feet, from floodmark in gage shelter), from rating curve extended above 15,000 second-feet; minimum, 6 second-feet Oct. 1, 9, 1926; minimum daily, 7.1 second-feet Oct. 1, 1925.

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	108	260	1,040	325	170	972	166	342	103	208	142
2	58	282	335	972	320	170	1,300	159	581	96	115	137
3	58	355	260	1,420	300	190	1,420	152	354	93	84	110
4	54	226	220	1,220	230	1,900	1,380	144	601	220	67	143
5	51	159	230	901	200	1,600	3,620	137	3,880	453	58	218
6	49	146	270	678	265	1,100	4,290	135	4,160	255	51	310
7	44	159	500	531	290	820	2,530	133	1,780	190	48	264
8	47	150	850	*488	260	640	1,780	135	1,080	557	44	168
9	44	137	744	475	215	540	1,340	171	738	447	40	127
10	43	123	634	429	185	470	1,080	206	541	261	39	105
11	47	114	894	382	200	440	888	193	416	193	39	103
12	46	143	869	332	220	390	744	159	343	173	71	95
13	53	173	1,520	306	320	350	634	142	314	210	196	90
14	37	166	1,460	244	490	330	556	129	343	150	107	77
15	42	215	1,000	290	860	360	493	125	314	125	370	70
16	40	272	1,270	275	750	490	434	150	339	112	954	82
17	41	247	1,820	260	540	450	395	168	320	116	406	60
18	41	215	1,260	330	420	370	370	168	902	135	215	52
19	42	212	908	320	310	350	374	152	912	108	159	42
20	43	218	773	250	260	380	378	129	511	93	229	51
21	47	229	689	210	*235	560	314	116	370	86	261	71
22	48	229	587	230	220	1,000	286	107	289	75	157	51
23	46	215	493	850	210	1,500	263	123	244	70	123	46
24	50	226	407	700	200	1,900	263	121	209	65	108	46
25	42	286	358	600	190	2,070	263	114	178	64	108	44
26	44	269	483	510	185	1,600	238	102	155	60	926	40
27	47	244	700	430	180	*1,380	218	95	137	56	827	27
28	40	250	2,640	400	175	1,340	198	93	125	51	520	35
29	47	232	2,070	370		1,220	186	94	112	56	300	38
30	83	226	2,020	360		1,040	173	275	105	70	218	36
31	110		1,420	350		908		539		126	171	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,545	110	37	49.8	0.134	0.15
November	6,226	355	108	208	.561	.62
December	27,944	2,640	220	901	2.43	2.80
Calendar year 1940	211,268	14,400	33	577	1.56	21.16
January	16,153	1,420	210	521	1.40	1.62
February	8,555	860	175	306	.825	.86
March	26,028	2,070	170	840	2.26	2.61
April	27,380	4,290	173	913	2.46	2.74
May	4,832	539	93	156	.420	.48
June	20,695	4,160	105	690	1.86	2.07
July	4,869	557	51	157	.423	.49
August	7,219	954	39	233	.628	.72
September	2,880	310	27	96.0	.259	.29
Water year 1940-41	154,326	4,290	27	423	1.14	15.45

Peak discharge.- Apr. 5 (11:30 p.m.) 5,480 sec.-ft.; June 6 (5 a.m.) 5,480 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-8, Jan. 15 to Mar. 23.

Moshannon Creek at Osceola Mills, Pa.

Location.- Water-stage recorder, lat. 40°50'55", long. 78°16'00", at Pennsylvania Railroad bridge at Osceola Mills, Clearfield County, 0.1 mile downstream from Trout Run. Datum of gage is 1,446.31 feet above mean sea level, adjustment of 1921.

Drainage area.- 71.5 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 1,420 second-feet June 5 (gage height, 5.37 feet), from rating curve extended above 550 second-feet; minimum, 12 second-feet Sept. 29, 30.

Remarks.- Records good except those for period of no gage-height record and those for period of ice effect, all of which are poor. Discharge prior to Nov. 21 computed on basis of gage readings made twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a21	26	73	207	47	33	221	54	79	36	24	23
2	a20	69	67	205	52	36	248	52	95	34	22	20
3	a20	41	65	219	49	50	273	48	75	49	20	19
4	a19	29	76	171	46	225	283	48	206	65	20	41
5	a18	27	54	140	43	116	968	46	1,020	46	20	51
6	a18	45	48	127	44	87	789	46	570	37	18	77
7	a17	35	73	*119	45	79	542	44	364	68	18	36
8	a18	33	104	105	42	83	407	46	267	76	17	30
9	a17	31	72	100	40	83	320	56	200	46	16	25
10	16	30	92	93	39	86	257	52	160	40	16	27
11	14	31	115	86	40	78	216	46	134	42	17	28
12	15	54	111	79	41	72	183	43	119	41	35	21
13	13	39	218	75	46	66	159	41	119	37	19	18
14	14	39	323	69	54	68	142	40	104	36	17	16
15	14	52	514	65	66	69	127	42	96	34	101	17
16	13	55	240	60	54	73	117	48	90	32	71	18
17	13	48	224	65	49	77	113	44	83	32	29	18
18	14	49	171	73	*44	65	138	39	101	30	24	18
19	13	54	154	66	42	76	138	37	82	30	27	18
20	15	57	151	58	41	61	111	35	65	28	26	17
21	15	57	145	69	40	97	100	34	57	26	20	16
22	14	55	127	53	38	156	94	34	53	26	20	16
23	13	53	113	89	37	210	89	37	51	24	18	15
24	15	78	98	57	36	264	91	33	49	25	16	14
25	13	69	91	58	35	292	81	32	45	24	28	14
26	13	58	127	52	35	270	75	31	42	22	146	14
27	14	70	115	51	34	276	69	32	39	22	77	14
28	13	66	407	51	33	267	65	32	38	24	39	13
29	12	60	330	48		248	60	66	37	28	31	12
30	34	59	286	48		224	55	100	38	33	27	12
31	19		239	46		207		58		29	25	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	497	34	12	16.0	0.224	0.26
November	1,469	78	26	49.0	.685	.76
December	5,023	514	48	162	2.27	2.61
Calendar year						
January	2,804	219	46	90.5	1.27	1.46
February	1,212	66	33	43.3	.606	.63
March	4,094	292	33	132	1.85	2.13
April	6,531	968	55	218	3.05	3.40
May	1,396	100	31	45.0	.629	.73
June	4,478	1,020	37	149	2.08	2.33
July	1,122	76	22	36.2	.506	.58
August	1,004	146	16	32.4	.453	.52
September	678	77	12	22.6	.316	.35
Water year 1940-41	30,308	1,020	12	83.0	1.16	15.76

Peak discharge.- Dec. 28 (3 p.m.) 575 sec.-ft.; Apr. 5 (2:30 p.m.) 1,340 sec.-ft.; June 5 (11:30 p.m.) 1,420 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Feb. 4 to Mar. 3.

Sinnemahoning Creek at Sinnemahoning, Pa.

Location.- Water-stage recorder, lat. 41°18'45", long. 78°05'30", a quarter of a mile upstream from Grove Run and 3,500 feet upstream from Pennsylvania Railroad bridge at Sinnemahoning, Cameron County. Datum of gage is 768.99 feet above mean sea level (unadjusted).

Drainage area.- 699 square miles.

Records available.- July 1938 to September 1941.

Extremes.- Maximum discharge during year, 10,900 second-feet Apr. 5 (gage height, 8.01 feet); minimum, 14 second-feet Sept. 30 (gage height, 1.33 feet); minimum daily, 16 second-feet Sept. 30.
1938-41: Maximum discharge, 19,100 second-feet Mar. 31, 1940 (gage height, 10.57 feet); minimum, 1.2 second-feet Sept. 4, 1939 (gage height, 1.18 feet); minimum daily, 1.4 second-feet Sept. 3, 1939.

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	133	590	2,670	802	340	1,920	524	188	173	228	68
2	136	589	800	2,330	760	340	2,910	501	207	126	159	63
3	130	794	550	2,590	617	450	3,150	457	173	103	120	52
4	123	486	515	2,250	430	1,700	3,230	416	523	117	98	48
5	114	376	530	1,880	340	2,500	7,850	396	3,340	162	103	89
6	100	435	580	1,560	400	2,100	8,850	370	2,300	126	98	173
7	100	486	950	1,310	450	1,600	5,580	353	1,490	117	75	162
8	103	422	3,120	1,100	400	1,300	3,990	396	1,090	407	63	103
9	103	383	2,190	*1,020	350	950	3,070	383	770	313	52	75
10	95	336	1,850	857	300	750	2,430	422	574	180	48	61
11	87	313	2,190	750	310	650	1,960	353	450	133	44	59
12	82	396	2,020	620	330	570	1,600	313	383	133	91	63
13	80	524	4,980	520	385	520	1,340	293	416	156	142	68
14	77	442	4,650	420	900	470	1,170	278	402	130	95	52
15	77	493	3,310	430	1,020	500	1,010	259	370	100	80	44
16	82	501	3,280	480	900	660	879	278	370	82	222	40
17	82	457	4,550	560	700	650	846	308	330	187	184	37
18	82	442	3,740	620	520	620	750	313	472	211	111	33
19	77	435	2,830	520	440	510	2,320	263	370	1,140	90	31
20	75	435	2,290	420	420	500	2,510	232	268	701	82	28
21	73	493	1,860	350	400	600	2,030	313	219	346	75	26
22	75	565	1,520	370	390	800	1,660	293	188	232	68	24
23	73	541	1,220	a1,500	380	1,200	1,300	293	166	180	57	23
24	70	565	998	a1,300	370	2,170	1,270	319	219	145	50	20
25	73	626	857	a1,400	365	3,150	1,040	250	180	126	50	20
26	73	550	835	a1,300	360	2,750	879	219	139	111	117	18
27	77	520	902	a1,200	*355	2,430	780	200	117	95	339	17
28	75	490	3,070	1,170	350	2,430	701	192	106	90	203	17
29	75	480	4,650	1,010		2,330	636	180	106	106	123	18
30	90	470	4,460	914		2,030	565	166	152	296	90	16
31	142		3,560	974		1,790		156		303	77	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,853	152	70	92.0	0.132	0.15
November	14,178	794	133	473	.677	.75
December	69,447	4,980	515	2,240	3.20	3.69
Calendar year 1940	408,832	16,800	44	1,117	1.60	21.75
January	34,395	2,670	350	1,110	1.59	1.83
February	13,744	1,020	300	491	.702	.73
March	39,360	3,150	340	1,270	1.82	2.09
April	68,226	8,850	565	2,274	3.25	3.63
May	9,689	524	156	313	.448	.52
June	16,078	3,340	106	536	.767	.86
July	6,827	1,140	82	220	.315	.36
August	3,434	339	44	111	.159	.18
September	1,548	173	16	51.6	.074	.08
Water year 1940-41	279,779	8,850	16	767	1.10	14.87

Peak discharge.- Dec. 13 (2:30 p.m.) 6,240 sec.-ft.; Apr. 5 (9 p.m.) 10,900 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Backwater from leaves and vegetation on control Oct. 1 to Nov. 1; discharge computed on basis of gage heights and one discharge measurement. Stage-discharge relation affected by ice Nov. 26 to Dec. 7, Jan. 12-22, Feb. 4 to Mar. 23.

Driftwood Branch of Sinnemahoning Creek at Sterling Run, Pa.

Location.- Staff gage, lat. 41°24'30", long. 78°11'25", 800 feet upstream from highway bridge at village of Sterling Run, Cameron County, and 1,100 feet upstream from Sterling Run. Datum of gage is 894.60 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 281 square miles.

Records available.- November 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. September 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1919-41), 432 second-feet.

Extremes.- Maximum discharge during year, 6,130 second-feet Apr. 15 (gage height, 6.6 feet, from graph based on gage readings); minimum observed, 2.6 second-feet Sept. 29 (gage height, 1.07 feet).
1913-41: Maximum discharge, 28,400 second-feet Mar. 17, 1936 (gage height, 12.0 feet, from graph based on gage readings), by slope-area method; minimum observed, 0.4 second-foot Sept. 7, 12-14, 1930.

Remarks.- Records poor. Gage read twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	43	125	1,020	255	100	750	196	58	45	123	19
2	26	217	170	835	220	100	1,280	188	62	31	82	15
3	22	154	135	1,020	170	110	1,380	168	50	32	60	11
4	20	105	115	792	130	270	1,550	148	155	39	53	19
5	19	80	120	632	100	560	4,260	142	445	51	80	40
6	18	86	170	525	120	360	4,240	134	300	29	43	90
7	19	95	390	430	135	290	2,440	131	203	36	33	55
8	20	78	1,110	335	125	255	1,790	145	168	217	24	29
9	20	69	619	345	100	230	1,220	142	122	95	21	20
10	19	58	491	*330	90	205	925	142	95	55	19	16
11	18	53	586	260	92	185	750	109	75	42	15	16
12	17	71	555	195	98	165	595	100	69	55	140	21
13	16	120	2,610	140	110	150	492	97	90	92	68	16
14	17	100	1,910	120	200	140	460	92	142	48	36	12
15	17	120	1,170	130	280	150	400	95	131	35	47	10
16	20	107	1,320	150	220	200	335	112	125	29	134	8.6
17	22	100	2,040	165	180	175	345	117	109	154	73	7.8
18	20	95	1,500	180	150	160	300	104	122	92	45	6.9
19	19	98	1,020	140	130	150	830	88	104	445	36	6.0
20	18	100	792	110	125	160	880	56	82	275	36	6.0
21	17	123	632	100	120	180	750	64	64	168	26	5.1
22	17	157	492	160	115	260	595	65	56	126	21	4.2
23	17	120	430	372	110	450	430	104	48	97	19	4.2
24	17	126	340	310	110	835	492	100	80	75	15	4.2
25	19	126	305	325	105	1,280	430	80	51	60	17	3.3
26	20	94	325	320	105	972	325	64	39	51	47	3.3
27	21	93	372	290	*105	880	286	60	31	40	137	3.3
28	21	92	1,620	280	105	925	254	48	29	38	60	3.3
29	20	90	2,300	270		880	230	51	32	70	33	2.6
30	30	104	2,170	270		710	246	44	56	206	24	2.8
31	60		1,440	280		632		39		168	20	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	653	60	16	21.1	0.075	0.09
November	3,074	217	43	102	.363	.41
December	27,374	2,610	115	883	3.14	3.62
Calendar year 1940	160,854.8	6,620	6.7	439	1.56	21.31
January	10,831	1,020	100	349	1.24	1.43
February	3,905	280	90	139	.495	.52
March	12,119	1,280	100	391	1.39	1.60
April	29,260	4,260	230	975	3.47	3.87
May	3,225	196	39	104	.370	.43
June	3,193	445	29	106	.377	.42
July	2,996	445	29	96.6	.344	.40
August	1,587	140	15	51.2	.182	.21
September	460.6	90	2.6	15.4	.055	.06
Water year 1940-41	98,677.6	4,260	2.6	270	.961	13.06

Note.- Backwater from leaves on control Nov. 3 to Dec. 7; discharge computed on basis of gage heights and one discharge measurement. Stage-discharge relation affected by ice Nov. 26 to Dec. 6, Jan. 11-22, Jan. 25 to Mar. 23.

Kettle Creek at Cross Fork, Pa.

Location.- Water-stage recorder, lat. 41°28'15", long. 77°49'50", at bridge on State Highway 144, 0.2 mile downstream from Potter-Clinton County line and 0.9 mile downstream from village of Cross Fork, Potter County. Datum of gage is 1,027.12 feet above mean sea level, adjustment of 1912.

Drainage area.- 136 square miles.

Records available.- November 1940 to September 1941.

Extremes.- Maximum discharge during period, 2,370 second-feet Apr. 6 (gage height, 5.42 feet); minimum, 3.2 second-feet Sept. 30 (gage height, 0.85 foot).

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			36	623	58	45	424	130	38	13	32	7.5
2			39	503	60	44	566	124	33	11	24	6.4
3			36	420	58	47	672	113	29	9.7	19	a6.0
4			33	342	54	125	788	102	76	25	16	a8.0
5			30	295	44	115	1,700	98	130	25	16	a14
6			40	259	46	100	2,120	94	86	15	14	a19
7			65	200	50	80	1,380	88	62	28	12	a13
8			110	186	52	70	1,000	86	52	63	10	a11
9			100	168	47	66	793	82	43	29	9.7	a10
10			90	*152	43	68	662	79	37	18	9.2	a9.0
11			120	140	43	70	566	70	33	40	11	a9.0
12			163	120	47	68	478	65	33	128	55	12
13			448	100	54	64	404	62	41	90	24	8.6
14			491	80	62	62	346	58	37	53	16	7.5
15			392	86	76	70	302	56	37	40	27	6.9
16			445	84	70	90	258	64	38	37	40	6.4
17			647	92	66	82	252	59	33	54	28	5.8
18			575	90	60	72	215	53	37	38	20	5.3
19			461	80	56	68	376	48	29	165	17	4.7
20			380	75	54	74	424	44	24	96	16	4.4
21			313	70	55	85	428	41	22	72	12	4.1
22		54	262	74	54	100	365	41	19	58	10	4.1
23		56	224	94	55	160	316	52	19	49	9.7	3.8
24		60	192	86	52	311	285	43	18	43	8.1	3.8
25		58	175	80	50	*436	236	38	16	38	10	3.8
26		54	184	74	*49	408	209	36	14	34	24	3.5
27		*44	224	68	47	445	189	34	12	29	26	3.5
28		40	1,150	62	46	486	170	32	11	26	15	3.5
29		37	1,640	60		453	152	30	11	31	9.7	3.5
30		36	1,180	58		396	138	29	15	38	8.6	3.2
31			850	60		365		27		38	8.1	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November 22-30	439	60	36	48.8	0.359	0.12
December	11,095	1,640	30	358	2.63	3.03
Calendar year						
January	4,861	623	58	157	1.15	1.33
February	1,508	76	43	53.9	.396	.41
March	5,125	486	44	165	1.21	1.40
April	16,214	2,120	138	540	3.97	4.43
May	1,978	130	27	63.8	.469	.54
June	1,085	130	11	36.2	.266	.30
July	1,433.7	165	9.7	46.2	.340	.39
August	557.1	55	8.1	18.0	.132	.15
September	211.3	19	3.2	7.04	.052	.06
Water year						

Peak discharge.- Dec. 29 (12:30 a.m.) 1,820 sec.-ft.; Apr. 6 (1:30 a.m.) 2,370 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations nearby.
Note.- Stage-discharge relation affected by ice Nov. 27 to Dec. 11; Jan. 11 to Mar. 23.

North Bald Eagle Creek at Beech Creek Station, Pa.

Location.- Water-stage recorder, lat. 41°03'55", long. 77°34'00", at highway bridge just downstream from Beech Creek, at Beech Creek Station, Clinton County. Datum of gage is 571.74 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 559 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. June 1910 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 31 years, 774 second-feet.

Extremes.- Maximum discharge during year, 5,970 second-feet Apr. 6 (gage height, 6.33 feet); minimum, 62 second-feet Oct. 14 (gage height, 1.32 feet); minimum daily, 108 second-feet Oct. 14.
1910-41: Maximum discharge, 22,300 second-feet Mar. 18, 1936 (gage height, 14.42 feet), from rating curve extended above 10,000 second-feet; minimum, 15 second-feet Jan. 9, 1931 (gage height, 1.12 feet); minimum daily, 25 second-feet (estimated) Jan. 22, 23, 1931.

Remarks.- Records fair. Some regulation at low flow by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	129	170	285	1,500	308	368	1,620	433	228	198	222	204
2	148	414	343	1,400	323	303	2,040	421	246	194	180	202
3	144	428	279	1,500	332	334	2,100	390	216	197	151	174
4	140	265	270	1,280	298	1,350	2,040	378	373	378	172	184
5	140	228	306	1,070	b270	1,110	3,520	367	1,400	381	180	208
6	125	220	255	950	b300	930	4,790	350	1,170	255	164	280
7	148	213	255	770	b400	718	3,320	340	718	314	152	232
8	146	194	290	666	b320	684	2,500	345	572	622	146	210
9	134	182	324	658	b280	650	1,980	345	479	360	150	174
10	138	163	352	618	b270	626	1,620	340	408	260	128	170
11	131	174	676	*557	b275	611	1,400	318	350	252	149	170
12	120	296	636	499	b280	564	1,180	308	323	644	168	160
13	160	342	1,120	506	b295	528	1,020	288	345	455	162	157
14	108	272	1,180	382	332	579	911	283	340	348	144	154
15	132	462	920	b360	432	807	834	268	309	284	270	146
16	136	521	1,370	b340	452	1,040	752	294	421	260	760	147
17	130	396	2,300	b360	b395	1,130	709	288	340	250	298	136
18	135	344	1,680	b380	b340	779	666	273	384	236	242	147
19	132	318	1,280	b340	b330	770	872	264	318	216	208	135
20	124	314	1,110	b300	b325	828	788	237	278	212	214	141
21	144	302	970	b290	b320	1,290	700	228	250	206	193	138
22	134	301	834	b330	b320	1,760	658	228	237	186	182	132
23	132	282	718	b400	b320	1,930	618	262	224	180	174	126
24	131	278	618	b380	324	2,040	634	261	242	174	156	131
25	133	330	557	362	332	2,360	587	220	216	168	214	132
26	134	289	634	356	*346	2,240	557	228	192	168	482	130
27	126	296	816	340	368	2,170	506	212	173	147	704	132
28	146	293	2,270	318	338	2,170	493	212	184	173	384	114
29	130	284	2,830	318		2,040	466	216	169	167	277	138
30	204	266	2,430	298		1,740	446	192	212	189	240	121
31	214		1,860	334		1,560		226		292	204	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,328	214	108	140	0.250	0.29
November	8,857	521	163	295	.528	.59
December	29,768	2,830	255	960	1.72	1.98
Calendar year 1940	267,929	14,400	108	732	1.31	17.82
January	18,162	1,500	290	586	1.05	1.21
February	9,225	452	270	329	.589	.61
March	36,009	2,360	303	1,162	2.08	2.40
April	40,327	4,790	446	1,344	2.40	2.68
May	9,015	433	192	291	.521	.60
June	11,317	1,400	169	377	.674	.75
July	8,366	644	147	270	.483	.56
August	7,470	760	128	241	.431	.50
September	4,825	280	114	161	.288	.32
Water year 1940-41	187,649	4,790	108	514	.919	12.49

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Backwater from grass and leaves on control Oct. 1 to Dec. 16; discharge computed on basis of gage heights and two discharge measurements.

Spring Creek near Axemann, Pa.

Location.- Water-stage recorder, lat. 40°53'25", long. 77°47'40", at highway bridge 1.6 miles west of Axemann, Centre County, 1.7 miles southwest of Bellefonte, and 2.5 miles upstream from Logan Branch. Datum of gage is 788.62 feet above mean sea level (unadjusted).

Drainage area.- 87.2 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 500 second-feet Mar. 22 (gage height, 3.62 feet); minimum, 24 second-feet Dec. 4 (gage height, 1.90 feet).

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Discharge prior to Nov. 19 computed on basis of gage readings made twice daily. Some regulation at low flow by fish hatchery upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a33	32	31	77	45	45	104	65	40	44	42	37
2	a34	40	32	77	45	44	111	63	40	57	42	36
3	a32	34	31	79	44	63	116	63	40	50	41	36
4	a33	32	31	74	42	185	123	60	49	61	41	37
5	a31	32	31	67	42	77	187	59	95	57	41	43
6	a31	32	30	68	42	71	236	59	81	50	40	41
7	a33	32	31	67	42	65	202	59	68	57	40	37
8	a39	32	31	65	42	67	173	60	64	57	40	36
9	a34	32	32	65	40	60	159	59	61	52	40	36
10	a33	33	32	63	41	59	140	57	57	50	40	37
11	a33	a33	38	63	40	64	128	56	55	49	41	37
12	a32	a43	36	60	40	56	116	54	55	54	41	36
13	33	a36	40	59	41	56	107	53	54	54	39	36
14	32	a37	40	57	44	54	107	53	54	50	38	35
15	32	a62	40	56	57	54	96	52	54	47	60	35
16	32	a54	48	57	54	60	94	52	55	48	52	35
17	32	a48	60	56	52	75	98	50	53	48	40	34
18	30	a44	56	56	47	69	93	49	58	46	38	34
19	30	a42	56	54	47	66	90	47	52	44	41	34
20	32	40	56	50	a46	69	86	46	50	44	40	33
21	32	34	54	50	a45	170	88	46	50	44	37	32
22	32	32	53	50	a44	260	83	50	49	43	36	33
23	32	32	52	53	42	232	77	49	48	43	36	32
24	32	35	50	59	42	174	77	44	48	43	35	32
25	32	34	49	52	45	154	67	42	47	43	36	30
26	31	35	53	50	47	140	68	42	47	43	51	30
27	31	36	54	50	49	133	70	41	46	42	45	29
28	32	32	73	49	47	124	70	41	46	42	40	29
29	32	31	79	46		116	65	41	46	42	37	28
30	35	31	81	46		107	67	40	46	47	37	28
31	32		79	46		104		40		49	37	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,004	39	30	32.4	0.372	0.43
November	1,101	62	31	36.7	.421	.47
December	1,459	81	30	47.1	.540	.62
Calendar year						
January	1,821	79	46	58.7	.673	.78
February	1,254	57	40	44.8	.514	.53
March	3,073	260	44	99.1	1.14	1.31
April	3,298	236	65	110	1.26	1.41
May	1,592	65	40	51.4	.589	.68
June	1,608	95	40	53.6	.615	.69
July	1,500	61	42	48.4	.555	.64
August	1,264	60	35	40.8	.468	.54
September	1,028	43	28	34.3	.393	.44
Water year 1940-41	20,002	260	28	54.8	.628	8.54

Peak discharge.- Mar. 4 (8 a.m.) 278 sec.-ft.; Mar. 22 (10 p.m.) 500 sec.-ft.; Apr. 5 (8 p.m.) 278 sec.-ft.

a No gage-height record; discharge computed on basis of records for nearby streams.

Pine Creek at Cedar Run, Pa.

Location.- Water-stage recorder, lat. 41°31'20", long. 77°26'55", at highway bridge at village of Cedar Run, Lycoming County, about 2,000 feet downstream from Cedar Run. Datum of gage is 781.96 feet above mean sea level (New York Central Railroad bench mark).

Drainage area.- 604 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. July 1918 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1919-41), 735 second-feet.

Extremes.- Maximum discharge during year, 9,600 second-feet Apr. 5 (gage height, 6.33 feet); minimum, 19 second-feet Sept. 23, 24, 29 (gage height, 0.87 foot); minimum daily, 21 second-feet Sept. 26-30.
1918-41: Maximum discharge, 30,900 second-feet Mar. 18, 1936 (gage height, 11.39 feet), by slope-area method; minimum, 5.1 second-feet Sept. 6, 1929 (gage height, 0.86 foot); minimum daily, 5.8 second-feet Sept. 6, 1929.

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by small reservoirs and mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	68	130	2,040	210	140	1,720	461	119	54	300	49
2	65	90	120	1,610	240	135	2,200	439	134	56	184	49
3	62	137	110	1,350	200	135	2,580	396	115	54	123	47
4	59	113	100	1,120	160	390	2,960	376	161	75	93	42
5	53	87	100	910	130	350	6,970	349	482	78	75	52
6	48	87	95	782	130	320	8,400	330	406	69	69	72
7	48	90	94	681	160	280	5,850	311	263	74	61	81
8	48	83	100	*561	175	255	4,350	305	214	110	56	61
9	51	77	110	561	160	250	3,460	292	184	108	49	47
10	54	74	140	499	130	250	2,860	299	165	75	47	45
11	48	68	250	468	130	260	2,470	258	148	123	52	45
12	46	98	600	425	140	250	2,120	235	134	447	122	40
13	46	171	1,400	390	160	240	1,800	224	148	275	160	37
14	46	141	1,340	340	190	235	1,550	209	165	161	84	37
15	46	149	1,030	320	230	260	1,350	194	152	108	90	35
16	48	149	1,120	330	215	300	1,150	224	170	87	139	33
17	48	141	1,680	335	200	360	1,070	252	165	161	126	30
18	53	137	1,250	340	185	300	952	241	148	173	104	30
19	51	*141	1,050	290	170	270	1,680	199	143	433	81	28
20	51	145	900	260	165	270	1,620	174	123	341	75	26
21	46	190	820	240	165	300	1,480	161	112	199	66	26
22	46	220	705	265	160	350	1,310	148	100	152	63	25
23	44	220	614	280	165	500	1,120	194	90	123	58	22
24	44	214	512	290	155	1,000	1,020	189	87	104	54	22
25	46	220	471	270	*150	1,300	870	161	81	87	58	23
26	46	210	456	250	145	1,700	764	143	72	78	72	21
27	48	185	614	230	140	2,100	690	130	69	69	84	21
28	48	155	3,040	210	140	2,130	611	123	63	99	66	21
29	48	140	4,350	200		1,770	553	119	61	126	54	21
30	59	130	3,780	190		1,430	499	119	56	167	49	
31	68		2,760	220		1,320		108		253		

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,582	71	44	51.0	0.084	0.10
November	4,130	220	68	138	.228	.25
December	29,841	4,350	94	963	1.59	1.84
Calendar year 1940	306,595	12,900	30	838	1.39	18.88
January	16,257	2,040	190	524	.868	1.00
February	4,700	240	130	168	.278	.29
March	19,150	2,130	135	618	1.02	1.18
April	66,029	8,400	499	2,201	3.64	4.07
May	7,363	461	108	238	.394	.45
June	4,530	482	56	151	.250	.28
July	4,519	447	54	146	.242	.28
August	2,798	300	47	90.3	.150	.17
September	1,109	81	21	37.0	.061	.07
Water year 1940-41	162,008	8,400	21	444	.735	9.98

Peak discharge.- Dec. 29 (8 p.m.) 4,590 sec.-ft.; Apr. 5 (8:30 p.m.) 9,600 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 26 to Dec. 13, Jan. 13 to Mar. 26.

Blockhouse Creek near English Center, Pa.

Location.- Water-stage recorder, lat. 41°28'30", long. 77°13'50", at bridge on State Highway 284, 0.7 mile upstream from Blacks Creek, 1.7 miles upstream from confluence with Texas Creek, and 5 miles northeast of English Center, Lycoming County. Datum of gage is 1,041.66 feet above mean sea level (unadjusted).

Drainage area.- 37.7 square miles.

Records available.- November 1940 to September 1941.

Extremes.- Maximum discharge during period, 980 second-feet Apr. 5 (gage height, 5.39 feet), from rating curve extended above 125 second-feet; minimum, 0.8 second-foot Sept. 29, 30.
Maximum stage known, 9.0 feet Mar. 18, 1936, from floodmark (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			13	133	11	11	145	33	11	4.2	7.1	3.3
2			12	108	12	11	168	30	8.4	4.2	8.6	2.9
3			11	91	12	15	170	28	6.6	3.3	5.0	2.6
4			11	76	11	45	177	27	21	12	3.8	2.6
5			11	62	10	35	518	26	72	9.0	3.1	2.8
6			11	54	11	28	421	25	37	5.2	2.6	3.6
7			11	47	12	23	268	24	25	5.8	2.4	3.3
8			12	*38	15	19	207	26	18	17	2.1	2.7
9			13	36	13	18	170	23	14	7.8	1.9	2.4
10			18	34	10	18	146	22	11	5.2	1.8	2.4
11			31	32	10	19	128	19	9.1	9.0	1.9	2.4
12			26	33	11	19	111	17	8.4	29	11	2.2
13			72	32	13	18	94	16	9.1	22	5.2	2.0
14			46	31	15	18	81	14	9.4	12	3.6	1.8
15			38	27	20	19	70	13	9.4	7.8	8.1	1.8
16			73	24	17	22	61	17	9.7	6.4	16	1.6
17			122	25	16	27	62	17	8.8	10	8.8	1.4
18			75	23	15	24	52	15	24	7.3	5.4	1.4
19			63	22	14	21	104	11	23	16	4.3	1.4
20			54	18	13	19	84	10	13	10	3.9	1.4
21			50	16	13	20	76	8.8	9.1	6.0	3.4	1.2
22			45	14	13	25	67	7.8	6.9	4.8	3.4	1.2
23			39	14	13	48	60	9.1	6.0	4.2	4.0	1.1
24		15	34	15	12	105	60	8.4	5.7	3.8	3.4	1.1
25		15	32	14	12	*126	51	7.1	4.9	3.3	5.2	1.0
26		13	33	13	12	125	46	6.4	4.3	3.1	13	1.0
27		16	44	13	11	150	43	6.0	3.8	2.8	15	1.0
28		*15	272	12	*11	146	40	5.5	3.6	3.7	7.1	.9
29		14	288	12		120	37	5.4	3.8	4.0	5.0	.8
30		14	231	11		99	34	4.9	3.9	6.3	4.2	.8
31			171	12		97		4.4		15	3.7	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	102	16	13	14.6	0.387	0.10
November 24-30	1,962	288	11	63.3	1.68	1.94
Calendar year						
January	1,092	133	11	35.2	.934	1.08
February	358	20	10	12.8	.340	.35
March	1,490	150	11	48.1	1.27	1.47
April	3,751	518	34	125	3.32	3.70
May	486.8	33	4.4	15.7	.416	.48
June	399.9	72	3.6	13.3	.353	.39
July	260.2	29	2.8	8.39	.223	.26
August	174.0	16	1.8	5.61	.149	.17
September	56.1	3.6	.8	1.87	.050	.06
Water year						

Peak discharge.- Dec. 28 (10:30 a.m.) 419 sec.-ft.; Mar. 27 (7:30 p.m.) 236 sec.-ft.; Apr. 5 (3:45 p.m.) 980 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 1-9, Jan. 5 to Mar. 23.

Lycoming Creek near Trout Run, Pa.

Location.- Water-stage recorder, lat. 41°25'05", long. 77°02'00", at highway bridge half a mile downstream from Grays Run and 2 3/4 miles upstream from village of Trout Run, Lycoming County. Datum of gage is 693.76 feet above mean sea level (unadjusted).

Drainage area.- 173 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. December 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 24 years (1914-16, 1919-41), 255 second-feet.

Extremes.- Maximum discharge during year, 5,220 second-feet Apr. 5 (gage height, 8.98 feet); minimum, 6.0 second-feet Sept. 28 (gage height, 1.50 feet); minimum daily, 6.7 second-feet Sept. 25, 26.
1913-41: Maximum discharge, 17,000 second-feet Mar. 18, 1936 (gage height, 17.34 feet, from floodmarks), by slope-area method; minimum, 3.2 second-feet Sept. 27, 1936; minimum daily, 4.0 second-feet Sept. 19-24, 27, 28, 1936.

Revisions: The figures of maximum discharge for some water years have been revised as shown in the following table. They supersede those published in previous reports.

Water year	Date	Gage height (feet)	Discharge (second-feet)
1927	Nov. 16	16.3	15,400
1930	Mar. 8	6.80	2,860
1933	Aug. 24	13.9	11,800
1934	Apr. 11	7.84	3,920
1935	Dec. 1	9.4	5,780
1937	Apr. 6	6.6	3,100
1938	Nov. 13	13.74	11,500
1939	Feb. 20	6.8	3,300

Remarks.- Records good except those for periods of ice effect, which are fair.

Revisions.- Revised figures of discharge, in second-feet, for high-water periods from Nov. 16, 1926, to Sept. 30, 1939, are given herein. They supersede those published in previous reports.

Day (Water year)	Discharge (second-feet)	Day (Water year)	Discharge (second-feet)
1926-27		1935-36	
Nov. 16	8,060	Mar. 19	4,070
		20	2,810
1929-30		21	1,940
Mar. 8	2,110	22	1,480
		23	1,250
1932-33		24	1,280
Aug. 24	6,790	25	1,300
25	2,020	26	1,330
26	1,110	27	1,340
Sept. 3	1,710	28	1,130
4	4,370	29	882
		30	724
1934-35		31	643
Dec. 1	3,710		
2	2,370	1936-37	
		Nov. 4	785
1935-36		5	1,890
Mar. 11	3,070	6	685
12	7,250	Jan. 1	685
13	2,320	15	1,230
14	1,300	16	838
15	1,120	17	685
16	2,240	18	1,080
17	6,130	19	838
18	9,110	20	685

Lycoming Creek near Trout Run, Pa.

(Continued)

Revised figures of discharge (continued)

Day (Water year)	Discharge (second-feet)	Day (Water year)	Discharge (second-feet)
1936-37		1937-38	
Jan. 21	685	Nov. 13	5,680
22	2,010	14	2,940
23	1,300	15	1,380
24	893	16	890
25	1,080	17	675
26	950	Dec. 18	2,060
Feb. 22	2,010	19	1,150
23	1,140	20	725
24	785		
Apr. 6	2,120	1938-39	
7	1,320	Dec. 7	675
8	785	10	2,160
9	1,230	11	1,460
10	893	12	835
11	785	Feb. 15	2,730
15	838	16	2,030
16	685	17	950
17	734	19	1,210
22	1,360	20	2,700
23	790	21	1,620
24	685	22	1,080
25	685	23	725
28	1,080	27	675
29	705	28	835
30	685		

Month	Second-foot days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
November 1926		8,060	260	1,044	5.64	6.29
Water year 1926-27		8,060	14	395	2.14	29.01
March 1930		2,110	270	643	3.48	4.00
Water year 1929-30		2,110	14	224	1.21	16.42
August 1933		6,790	28	488	2.64	3.04
September 1933		4,370	116	595	3.22	3.59
Water year 1932-33		6,790	12	336	1.82	24.62
December 1934	13,210	3,710	81	426	2.46	2.84
Calendar year 1934	77,297	3,710	10	212	1.23	16.62
Water year 1934-35	88,720	3,710	17	243	1.40	19.05
March 1936	55,431	9,110	183	1,788	10.34	11.92
Water year 1935-36	102,528.4	9,110	4.0	280	1.62	22.04
November 1936	7,837	1,690	70	261	1.51	1.68
Calendar year 1936	103,156.4	9,110	4.0	282	1.63	22.16
January 1937	21,235	2,010	307	685	3.96	4.56
February 1937	9,798	2,010	142	350	2.02	2.11
April 1937	20,976	2,120	256	699	4.04	4.51
Water year 1936-37	100,773	2,120	11	276	1.60	21.66
November 1937	18,669	5,680	142	622	3.60	4.01
December 1937	10,363	2,060	80	334	1.93	2.23
Calendar year 1937	117,072	5,680	18	321	1.86	25.17
Water year 1937-38	87,917.9	5,680	6.8	241	1.39	18.91
December 1938	10,675	2,160	66	344	1.99	2.29
Calendar year 1938	65,402.9	2,160	6.8	179	1.03	14.07
February 1939	20,044	2,730	176	716	4.14	4.31
Water year 1938-39	75,107.9	2,730	7.0	206	1.19	16.14
Calendar year 1939	70,097.9	2,730	7.0	192	1.11	15.07

Lycoming Creek near Trout Run, Pa.

(Continued)

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	43	109	725	70	64	856	141	44	28	59	19
2	31	126	102	582	76	64	1,070	134	46	26	51	18
3	30	129	94	490	73	66	1,080	124	40	25	42	17
4	29	92	96	428	70	140	1,150	116	54	45	35	16
5	27	80	94	339	66	165	3,080	111	286	50	31	16
6	25	73	84	290	60	151	2,910	107	164	39	26	18
7	26	68	80	*234	74	119	1,800	103	93	35	24	19
8	32	63	84	212	78	124	1,280	101	68	50	22	18
9	33	59	86	209	72	118	1,050	97	56	46	20	17
10	30	56	84	200	60	107	875	93	50	38	18	15
11	27	56	120	178	60	113	765	85	43	42	17	13
12	26	212	122	159	65	105	640	78	41	216	36	12
13	25	217	302	159	68	99	540	75	42	185	34	12
14	25	164	245	118	77	99	463	70	43	96	27	11
15	24	366	189	115	110	116	390	65	43	66	28	10
16	26	340	369	118	94	138	335	73	43	59	55	9.5
17	27	252	740	120	90	151	320	82	41	127	44	9.5
18	25	206	462	125	80	120	280	71	120	95	35	8.8
19	25	178	378	120	72	110	435	62	113	118	30	8.8
20	25	164	336	100	72	110	354	56	71	100	27	8.1
21	24	159	308	86	74	120	305	52	56	70	25	8.1
22	23	151	281	90	78	154	276	48	47	58	25	8.1
23	23	136	242	96	73	204	253	51	43	50	24	7.4
24	23	136	206	93	*76	335	263	50	41	46	24	7.4
25	23	134	189	90	*73	544	240	46	36	41	25	6.7
26	24	122	203	92	76	554	212	44	32	36	33	6.7
27	24	118	369	86	70	717	195	41	30	33	39	7.4
28	24	118	1,290	82	67	750	183	39	27	31	33	7.4
29	24	111	1,770	78		640	167	36	26	30	28	7.4
30	34	107	1,510	70		498	156	34	25	35	25	8.8
31	48		960	72		507		33		82	22	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	844	48	23	27.2	0.157	0.18
November	4,236	366	43	141	.815	.91
December	11,504	1,770	80	371	2.14	2.47
Calendar year 1940	107,091	5,340	14	293	1.69	23.01
January	5,956	725	70	192	1.11	1.28
February	2,074	110	60	74.1	.428	.45
March	7,302	750	64	236	1.36	1.57
April	21,923	3,080	156	731	4.23	4.71
May	2,318	141	33	74.8	.432	.50
June	1,864	286	25	62.1	.359	.40
July	1,998	216	25	64.5	.373	.43
August	964	59	17	31.1	.180	.21
September	351.1	19	6.7	11.7	.068	.08
Water year 1940-41	61,334.1	3,080	6.7	168	.971	13.19

Peak discharge.- Dec. 29 (4:30 p.m.) 2,530 sec.-ft.; Apr. 5 (7 p.m.) 5,220 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 14 to Feb. 21, Mar. 1, 2, 18-21.

Grafius Run at Williamsport, Pa.

Location.- Water-stage recorder and masonry control, lat. 41°15'15", long. 77°00'40", at footbridge 1½ blocks upstream from Oakland Avenue in Williamsport, Lycoming County, and 1½ miles upstream from mouth. Datum of gage is 553.37 feet above mean sea level, datum of 1929.

Drainage area.- 3.14 square miles.

Records available.- April 1940 to September 1941.

Extremes.- 1940: Maximum discharge during period April to September, 111 second-feet Apr. 8 (gage height, 1.65 feet); no flow at times.
1940-41: Maximum discharge during water year, 62 second-feet Aug. 15 (gage height, 1.40 feet); no flow at times.

Remarks.- Records fair except those for periods of no gage-height record and those for period of ice effect, all of which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							30	1.9	20	0.3	0.1	a3.0
2							24	3.3	20	.2	.1	a2.1
3							32	2.1	10	.2	.1	a1.7
4							42	2.1	5.7	.2	.1	a1.4
5							26	1.9	3.9	.1	.1	a1.1
6							18	1.7	2.5	.1	.1	a1.0
7							7.4	1.7	1.9	.1	.1	a .9
8							32	1.7	1.5	.1	.1	.8
9							33	2.3	a1.2	.1	.1	.9
10							15	1.7	1.0	.1	.1	1.1
11							9.4	1.3	.8	.1	.1	.6
12							7.4	1.1	.6	.2	.1	.4
13							6.5	1.1	.4	.1	1.6	.4
14							4.4	1.1	.4	.1	.2	.3
15							3.5	1.1	.3	.1	.1	.4
16							3.0	2.1	.2	.1	.1	.7
17							2.6	1.2	.2	.1	.1	.4
18							4.0	1.1	.2	.1	.1	.3
19							3.5	1.1	.2	.1	.1	.3
20							25	2.9	.2	.1	.1	.2
21							58	2.5	.2	0	.1	.2
22							18	2.5	.1	1.2	.1	.2
23							8.9	2.1	.1	2.7	.1	.2
24							5.7	1.9	.4	.4	.1	.2
25							4.2	1.9	.3	.2	.1	2.4
26							3.1	8.4	.4	.2	.3	.5
27							2.5	8.4	.2	.2	1.3	.3
28							2.1	6.3	.3	a.2	1.6	.3
29							1.9	4.5	.3	a.2	.4	.2
30							1.7	3.3	.1	.2	.3	.2
31								13		.1	4.2	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January						
February						
March	434.8	58	1.7	14.5	4.62	5.15
April	89.3	13	1.1	2.88	.917	1.06
May	73.6	20	.1	2.45	.780	.87
June	8.2	2.7	0	.26	.083	.10
July	12.2	4.2	.1	.39	.124	.14
August	22.7	3.0	.2	.76	.242	.27
September						
Water year						

a No gage-height record; discharge computed on basis of records for nearby stations.

Loyalsock Creek at Loyalsock, Pa.

Location.- Water-stage recorder, lat. 41°19'25", long. 76°54'40", at highway bridge at Loyalsock, Lycoming County, 2½ miles downstream from Wallis Run. Datum of gage is 585.63 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 443 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. July 1925 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 16 years, 685 second-feet.

Extremes.- Maximum discharge during year, 14,100 second-feet Apr. 5 (gage height, 8.32 feet); minimum, 33 second-feet Sept. 22, 23 (gage height, 2.41 feet).
1925-41: Maximum gage height, 12.3 feet Nov. 16, 1926 (discharge not determined; figures previously published may be in error); minimum discharge, 12 second-feet Sept. 26, 1939 (gage height, 2.52 feet).

Remarks.- Records good except those for period of ice effect and those for periods of no gage-height record, all of which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	361	411	1,770	210	185	a2,000	388	123	133	496	97
2	176	1,050	392	1,470	235	185	2,700	369	140	140	319	94
3	179	1,350	361	1,270	225	190	2,800	338	154	97	203	79
4	186	916	300	1,120	*215	320	2,900	304	153	202	144	74
5	169	731	348	894	200	475	7,250	292	751	321	114	74
6	153	676	330	770	175	440	8,980	282	913	217	100	76
7	149	640	334	657	220	340	4,950	271	468	166	84	a100
8	288	548	367	555	230	360	3,490	271	309	336	74	a92
9	423	479	350	548	210	340	2,700	333	212	338	72	a84
10	296	423	322	532	175	300	2,240	298	174	212	61	a72
11	245	398	380	465	195	320	1,980	282	144	162	52	a62
12	224	650	404	411	205	290	1,680	245	130	154	84	a58
13	209	830	782	400	215	270	1,430	222	127	217	104	55
14	190	676	916	310	240	260	1,220	199	123	178	106	51
15	183	1,940	640	320	350	270	1,060	186	123	144	146	47
16	190	2,000	919	325	310	315	914	194	162	114	342	47
17	216	1,470	*2,550	340	280	360	877	275	159	103	261	47
18	194	1,190	1,770	350	265	300	803	261	910	94	199	42
19	179	960	1,360	330	245	280	914	222	807	120	144	41
20	179	830	1,190	260	230	280	1,110	194	448	140	120	39
21	172	731	1,050	225	230	290	942	170	304	120	108	37
22	166	657	960	235	225	350	821	147	217	97	97	34
23	159	588	840	255	210	509	741	147	186	84	94	33
24	156	563	704	245	220	800	733	144	162	77	108	54
25	153	555	631	235	*205	*1,210	682	137	144	65	111	63
26	149	493	631	250	220	1,340	609	123	127	63	183	57
27	159	458	910	235	200	1,650	562	111	117	61	383	57
28	153	479	2,390	220	195	a1,710	510	106	100	61	314	51
29	146	437	3,600	210		a1,450	467	100	91	80	186	44
30	210	417	3,620	200		a1,140	420	100	84	206	144	36
31	492		2,330	215		a1,160		100		487	120	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	6,326	492	146	204	0.460	0.53
November	23,496	2,000	361	783	1.77	1.97
December	32,072	3,620	300	1,035	2.34	2.69
Calendar year 1940	329,116	18,200	59	899	2.03	27.62
January	15,622	1,770	200	504	1.14	1.31
February	6,335	350	175	226	.510	.53
March	17,689	1,710	185	570	1.29	1.48
April	58,485	8,980	420	1,950	4.40	4.91
May	6,811	388	100	220	.497	.57
June	8,062	913	84	269	.607	.68
July	4,989	487	61	161	.363	.42
August	5,073	496	52	164	.370	.43
September	1,797	100	33	59.9	.135	.15
Water year 1940-41	186,757	8,980	33	512	1.16	15.67

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Jan. 13 to Mar. 22.

Muncy Creek near Sonestown, Pa.

Location.- Water-stage recorder, lat. 41°21'25", long. 76°32'05", 50 feet downstream from Slip Run, 150 feet downstream from bridge on State Highway 464, and 1.2 miles east of Sonestown, Sullivan County. Datum of gage is 1,024.12 feet above mean sea level, adjustment of 1912.

Drainage area.- 23.8 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 1,110 second-feet Apr. 5 (gage height, 5.16 feet), from rating curve extended above 180 second-feet; minimum, 2.9 second-feet Sept. 29, 30 (gage height, 1.67 feet).

Remarks.- Records good except those for high stages, which are fair, and those for periods of ice effect and those for periods of no gage-height record, all of which are poor. Discharge prior to Apr. 1 computed on basis of gage readings made twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	24	23	99	8.5	15	a180	18	14	15	91	15
2	17	105	22	83	8.0	15	146	17	7.6	12	48	14
3	13	97	21	72	7.5	15	158	15	6.2	8.2	32	12
4	14	69	20	61	7.0	20	181	15	10	55	24	11
5	12	52	21	40	8.0	40	626	14	44	26	20	13
6	12	62	21	25	*9.0	30	509	14	17	16	15	20
7	15	57	20	16	8.0	25	341	13	9.6	23	14	11
8	52	50	21	15	13	22	a280	30	7.9	49	12	9.0
9	27	45	21	16	12	21	a200	18	6.2	23	10	8.6
10	23	37	20	15	9.0	20	a150	16	5.9	18	9.3	7.9
11	19	34	22	14	9.0	19	a120	14	5.0	15	8.8	7.9
12	17	68	27	13	10	18	a100	13	5.0	33	22	6.8
13	18	*46	62	13	12	18	a84	12	5.9	30	9.6	5.9
14	17	46	43	11	16	19	a70	11	11	19	7.9	5.6
15	19	170	a60	11	30	20	62	11	10	15	20	5.3
16	20	114	119	12	28	21	55	17	13	12	29	5.0
17	16	88	160	14	26	22	57	14	12	20	15	4.7
18	17	69	*106	15	24	21	45	12	19	15	10	4.4
19	16	56	75	13	21	20	53	10	17	21	12	4.4
20	14	51	64	11	19	20	50	9.6	10	12	13	4.1
21	14	44	57	11	20	21	42	8.6	8.6	9.6	9.0	3.8
22	12	40	47	12	20	23	35	7.9	7.6	8.6	28	3.5
23	11	35	44	11	19	27	32	7.9	12	7.9	21	3.5
24	10	a34	36	10	20	31	36	7.9	7.9	7.2	12	3.3
25	10	34	a34	9.0	*21	35	31	7.2	6.8	8.2	46	3.1
26	12	31	35	9.5	20	48	29	6.5	5.9	12	72	3.1
27	11	34	56	9.0	19	78	26	6.2	5.3	8.0	71	3.1
28	10	29	196	8.5	17	*88	23	6.5	4.7	30	35	3.1
29	10	27	a230	8.0		72	21	5.9	5.4	15	25	2.9
30	40	27	215	7.5		58	20	5.6	10	115	21	2.9
31	27		136	8.0		68		5.3		172	19	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	541	52	10	17.5	0.735	0.85
November	1,675	170	24	55.8	2.34	2.62
December	2,034	230	20	65.6	2.76	3.18
Calendar year						
January	672.5	99	7.5	21.7	.912	1.05
February	441.0	30	7.0	15.8	.664	.69
March	970	88	15	31.3	1.32	1.52
April	3,762	626	20	125	5.25	5.88
May	369.1	30	5.3	11.9	.500	.58
June	310	44	4.7	10.4	.437	.49
July	830.7	172	7.2	26.8	1.13	1.30
August	781.6	91	7.9	25.2	1.06	1.22
September	207.9	20	2.9	6.93	.291	.32
Water year 1940-41	12,595.3	626	2.9	34.5	1.45	19.70

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Dec. 2-9; Jan. 5 to Mar. 25.

Shamokin Creek at Weigh Scale, Pa.

Location.- Water-stage recorder, lat. 40°48'30", long. 76°35'05", at Weigh Scale, Northumberland County, 1 mile downstream from Trout Run and 2 miles northwest of Shamokin.

Drainage area.- 54.2 square miles.

Records available.- November 1939 to September 1941.

Extremes.- Maximum discharge during year, 865 second-feet Aug. 26 (gage height, 2.75 feet); minimum, 11 second-feet Sept. 22; minimum daily, 17 second-feet Sept. 14, 21.

1939-41: Maximum discharge, 2,040 second-feet July 23, 1940 (gage height, 4.18 feet), from rating curve extended above 600 second-feet; minimum, 3.2 second-feet Feb. 15, 1940 (gage height, 0.42 foot); minimum daily, 11 second-feet Feb. 4, 1940.

Remarks.- Records fair. Regulation at low flow by mine pumps upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	41	a86	110	44	41	108	58	28	d45	44	33
2	49	132	a95	128	38	42	108	55	36	d50	42	42
3	44	74	a83	128	47	57	103	56	33	d52	37	46
4	38	71	a75	112	49	71	105	44	66	d54	42	47
5	33	61	a70	89	44	56	136	55	120	d64	41	56
6	27	62	56	104	45	54	145	58	62	d42	43	d48
7	91	59	55	92	60	52	128	57	46	d38	40	d45
8	76	53	47	85	52	52	120	66	37	51	42	d42
9	54	48	57	85	40	48	110	58	39	41	37	d42
10	50	33	57	83	43	56	103	51	39	37	29	d43
11	48	35	55	73	47	62	103	40	40	42	36	d40
12	47	60	57	63	50	58	98	45	38	42	49	37
13	40	a115	60	80	48	57	92	48	41	33	46	33
14	50	a100	53	71	85	62	94	47	d46	40	46	17
15	47	a230	37	71	81	75	96	48	d44	41	72	23
16	44	a210	74	69	62	72	89	55	d52	43	53	24
17	48	a175	81	71	69	83	101	44	d43	42	42	31
18	42	a155	67	67	66	70	87	33	d48	40	42	31
19	42	a140	66	53	58	72	81	40	d54	37	59	29
20	36	123	75	58	56	78	69	41	44	29	44	37
21	45	110	71	55	59	79	76	38	42	38	36	17
22	39	110	63	58	54	77	71	45	29	43	41	23
23	43	98	73	d65	49	83	76	44	44	d38	33	28
24	44	96	69	d60	55	103	79	36	45	d37	36	32
25	43	98	55	56	56	118	78	31	50	d35	52	30
26	41	89	64	44	53	110	69	40	48	d34	92	32
27	32	85	66	51	50	118	60	39	52	d33	59	28
28	42	a84	117	54	48	123	66	36	49	d30	52	20
29	37	a83	133	52		123	64	37	36	d34	51	23
30	61	a82	148	47		108	61	34	40	71	46	26
31	44		123	48		110		34		56	40	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,411	91	27	45.5	0.839	0.97
November	2,912	230	33	97.1	1.79	2.00
December	2,288	148	37	73.8	1.36	1.57
Calendar year 1940	33,142	995	11	90.6	1.67	22.76
January	2,282	128	44	73.6	1.36	1.57
February	1,508	85	38	53.9	.994	1.03
March	2,370	123	41	76.5	1.41	1.63
April	2,776	145	60	92.5	1.71	1.90
May	1,413	66	31	45.6	.841	.97
June	1,391	120	28	46.4	.856	.95
July	1,312	71	29	42.3	.780	.90
August	1,424	92	29	45.9	.847	.98
September	1,005	48	17	33.5	.618	.69
Water year 1940-41	22,092	230	17	60.5	1.12	15.16

a No gage-height record; discharge computed on basis of records for nearby stations.
d Doubtful gage-height record; discharge computed on basis of records for nearby stations.

Penn Creek at Penns Creek, Pa.

Location.- Water-stage recorder, lat. 40°51'35", long. 77°04'05", at bridge on State Highway 104, three-quarters of a mile northeast of village of Penns Creek, Snyder County. Datum of gage is 506.74 feet above mean sea level (unadjusted).

Drainage area.- 301 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. October 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 12 years, 383 second-feet.

Extremes.- Maximum discharge during year, 2,690 second-feet Apr. 5 (gage height, 5.80 feet); minimum, 17 second-feet Sept. 30 (gage height, 0.98 foot); minimum daily, 38 second-feet Sept. 30.
1929-41: Maximum discharge, 14,900 second-feet Sept. 16, 1934 (gage height, 13.00 feet), from rating curve extended above 6,000 second-feet; minimum, 7.0 second-feet Sept. 27, 1932; minimum daily, 26 second-feet Nov. 28-30, 1930.

Remarks.- Records good except those for period of ice effect and those for period of no gage-height record, all of which are poor. Regulation at low and medium flows by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	101	169	680	150	165	685	a250	120	120	139	80
2	84	283	174	630	165	175	816	a245	129	155	93	80
3	88	232	154	650	170	210	915	a230	125	164	72	82
4	91	153	143	610	150	892	945	a225	202	185	56	73
5	70	139	158	485	135	734	1,750	a220	720	292	64	78
6	74	124	160	*507	140	529	2,360	216	738	194	66	84
7	85	114	145	444	160	419	1,770	210	444	157	65	78
8	110	112	145	407	150	326	1,450	222	330	238	56	72
9	86	90	133	383	140	345	1,260	222	280	129	49	72
10	71	88	147	360	130	356	1,090	242	238	154	51	73
11	76	90	188	345	125	399	970	216	210	131	51	66
12	73	192	205	315	130	364	852	197	197	129	60	66
13	59	229	261	308	150	312	770	188	197	148	59	65
14	65	199	315	292	170	326	704	180	203	123	56	63
15	71	464	277	323	200	360	640	167	200	112	69	56
16	66	411	441	300	270	411	590	188	245	102	230	59
17	68	315	725	364	240	428	570	191	203	102	136	60
18	60	267	600	319	210	344	525	178	232	93	92	58
19	61	238	506	284	160	427	520	159	255	91	100	54
20	63	211	457	249	160	474	510	152	206	87	114	51
21	63	197	432	254	170	594	444	147	167	75	108	51
22	70	185	383	262	180	766	394	138	147	91	89	53
23	60	174	352	257	185	1,110	372	150	142	82	77	49
24	60	172	323	213	*185	1,150	385	152	138	78	75	56
25	61	167	298	180	180	1,040	368	138	136	76	74	56
26	57	165	326	170	170	945	334	127	125	71	111	48
27	63	175	352	175	165	945	314	127	110	68	192	46
28	59	166	626	160	160	945	a290	120	112	63	136	45
29	65	160	915	155		855	a270	116	104	74	114	50
30	85	154	915	150		762	a260	114	100	68	98	38
31	99		789	155		685		110		136	93	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,256	110	57	72.8	0.242	0.28
November	5,767	464	88	192	.638	.71
December	11,214	915	133	362	1.20	1.39
Calendar year 1940	152,695	9,300	37	417	1.39	18.87
January	10,386	680	150	335	1.11	1.28
February	4,700	270	125	168	.558	.58
March	17,793	1,150	165	574	1.91	2.20
April	23,123	2,360	260	771	2.56	2.86
May	5,537	250	110	179	.595	.68
June	6,755	738	100	225	.748	.83
July	3,788	292	63	122	.405	.47
August	2,845	230	49	91.8	.305	.35
September	1,862	84	38	62.1	.206	.23
Water year 1940-41	96,022	2,360	38	263	.874	11.86

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby streams.
Note.- Stage-discharge relation affected by ice Jan. 25 to Mar. 3.

Mahantango Creek East near Dalmatia, Pa.

Location.- Water-stage recorder, lat. 40°36'40", long. 76°54'45", at highway bridge 2 miles upstream from mouth and 3¼ miles south of Dalmatia, Northumberland County. Datum of gage is 400.50 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 162 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. October 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 12 years, 205 second-feet.

Extremes.- Maximum discharge during year, 1,620 second-feet Nov. 15; maximum gage height, 6.10 Feb. 14 (ice jam); minimum discharge, 3.5 second-feet Sept. 29 (gage height, 0.93 foot); minimum daily discharge, 4.0 second-feet Sept. 29.
1929-41: Maximum discharge, 10,600 second-feet Aug. 24, 1933 (gage height, 13.66 feet), from rating curve extended above 4,000 second-feet; minimum, 1.5 second-feet Sept. 21, 1932 (gage height, 0.84 foot).

Remarks.- Records good except those for periods of backwater, which are fair, and those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	76	161	538	*96	120	296	93	36	25	31	11
2	53	310	186	453	99	125	310	91	38	41	20	12
3	73	411	200	405	100	140	325	84	40	57	15	14
4	76	265	163	368	90	340	317	82	50	77	12	11
5	57	214	186	303	82	241	403	81	222	113	11	11
6	47	186	173	282	86	211	637	78	228	64	11	16
7	47	166	166	249	92	*153	556	76	122	54	10	19
8	282	146	158	225	85	107	479	103	91	48	8.8	15
9	250	133	151	211	79	142	410	98	78	41	8.5	12
10	176	122	146	191	74	151	352	89	65	36	7.7	15
11	142	118	144	176	75	133	303	79	60	29	6.4	18
12	116	131	149	173	82	130	268	73	55	31	6.4	9.6
13	100	197	156	158	105	137	240	70	55	32	7.2	9.0
14	93	172	*168	127	180	160	222	65	60	30	7.6	7.9
15	81	1,150	168	140	350	249	205	60	60	26	14	8.0
16	81	1,120	224	131	320	443	189	69	61	21	31	7.4
17	71	700	*497	161	280	*522	189	67	56	20	28	7.4
18	67	497	457	166	200	470	173	68	78	21	19	6.8
19	64	364	380	156	190	280	156	65	59	18	13	5.7
20	61	303	337	129	120	291	144	55	47	16	17	5.4
21	61	262	303	114	120	535	137	50	40	17	15	5.7
22	57	234	255	144	125	588	129	47	38	18	15	4.9
23	52	214	228	140	125	556	122	89	36	15	13	5.2
24	50	200	200	127	130	506	140	70	34	15	11	4.9
25	52	205	186	105	135	502	133	53	32	14	11	5.4
26	49	178	181	100	130	462	118	48	29	13	17	5.2
27	48	173	176	105	125	431	112	42	27	14	91	5.4
28	47	178	347	92	120	427	106	38	24	11	57	4.9
29	47	166	620	90		410	98	38	22	13	26	4.0
30	69	158	885	89		356	95	34	25	16	19	7.1
31	104		700	92		314		36		28	14	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,628	282	47	84.8	0.523	0.60
November	6,749	1,150	76	292	1.80	2.01
December	8,451	885	144	273	1.69	1.94
Calendar year 1940	92,257	4,300	17	252	1.56	21.18
January	5,940	538	89	192	1.19	1.36
February	3,795	350	74	136	.840	.87
March	9,632	588	107	311	1.92	2.21
April	7,364	637	95	245	1.51	1.69
May	2,091	103	34	67.5	.417	.48
June	1,868	228	22	62.3	.385	.43
July	974	113	11	31.4	.194	.22
August	573.6	91	6.4	18.5	.114	.13
September	273.9	19	4.0	9.13	.056	.06
Water year 1940-41	52,339.5	1,150	4.0	143	.883	12.00

Peak discharge.- Nov. 15 (6 p.m.) 1,620 sec.-ft.; Dec. 30 (12:30 a.m.) 912 sec.-ft.; Mar. 22 (11:30 p.m.) 858 sec.-ft.; Apr. 6 (1:30 a.m.) 700 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 25 to Mar. 3, Mar. 18, 19. Backwater from leaves or aquatic vegetation Oct. 8 to Nov. 14, May 15 to Sept. 30; discharge computed on basis of gage heights and five discharge measurements.

Frankstown Branch of Juniata River at Williamsburg, Pa.

Location.- Water-stage recorder, lat. 40°27'45", long. 78°12'00", at highway bridge at Williamsburg, Blair County, 2½ miles upstream from Clover Creek. Datum of gage is 831.78 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 291 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1916 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1919-41), 382 second-feet.

Extremes.- Maximum discharge during year, 7,560 second-feet June 5 (gage height, 10.60 feet); minimum, 36 second-feet Oct. 8 (gage height, 1.51 feet); minimum daily, 55 second-feet Oct. 4, 11.
1916-41: Maximum discharge, 47,600 second-feet Mar. 18, 1936 (gage height, 18.58 feet, from floodmark in gage shelter), by slope-area method; minimum, 13 second-feet July 24, 1934 (gage height, 0.97 foot); minimum daily, 31 second-feet (estimated) Dec. 24, 25, 1930.
Maximum stage known, 19.1 feet June 1, 1889, from floodmark (discharge, about 35,500 second-feet).

Remarks.- Records good. Regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	78	117	510	159	181	563	159	200	126	231	114
2	58	225	157	529	173	190	677	157	218	113	162	101
3	57	162	120	772	166	319	756	147	175	401	140	96
4	55	103	87	600	144	930	736	143	1,120	1,140	126	135
5	56	89	115	435	135	550	2,450	139	5,410	720	118	282
6	56	89	108	375	148	441	2,480	135	2,880	417	111	215
7	56	84	98	316	164	378	1,440	134	1,260	543	103	140
8	57	76	164	282	147	331	1,040	157	797	598	97	126
9	57	73	159	288	128	337	820	155	563	342	94	116
10	56	72	214	262	128	298	696	159	441	267	94	107
11	55	71	407	239	135	353	600	135	340	695	90	107
12	57	85	334	218	158	325	510	126	319	556	319	100
13	57	90	524	204	237	314	458	124	381	343	146	94
14	57	84	477	167	333	484	404	120	340	246	217	90
15	56	212	363	180	522	725	362	117	299	207	580	90
16	56	205	590	160	353	945	328	154	305	240	524	85
17	57	145	884	186	292	858	316	147	272	196	246	82
18	58	122	528	194	217	459	291	134	523	167	178	83
19	56	108	410	178	191	448	322	118	320	157	191	79
20	61	99	366	132	180	496	286	111	244	142	225	77
21	64	98	349	133	192	699	244	116	207	129	159	79
22	61	94	301	153	196	780	222	100	186	123	142	80
23	59	90	259	226	188	798	211	110	175	118	134	77
24	58	94	229	201	190	960	254	111	175	118	124	78
25	59	106	208	188	229	1,010	218	100	154	110	147	76
26	60	96	394	166	272	798	198	96	137	107	166	72
27	62	104	425	158	269	716	190	96	129	97	220	73
28	60	108	1,150	176	207	696	176	104	123	97	142	72
29	58	111	1,160	173		658	167	124	118	119	123	73
30	97	103	865	166		600	166	458	138	345	113	73
31	106		658	169		582		230		688	116	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,880	106	55	60.6	0.208	0.24
November	3,276	225	71	109	.375	.42
December	12,220	1,160	87	394	1.35	1.56
Calendar year 1940	136,585	9,250	54	373	1.28	17.45
January	8,136	772	132	262	.900	1.04
February	5,853	522	128	209	.718	.75
March	17,659	1,010	181	570	1.96	2.26
April	17,581	2,480	166	586	2.01	2.25
May	4,416	458	96	142	.488	.56
June	17,949	5,410	118	598	2.05	2.29
July	9,667	1,140	97	312	1.07	1.24
August	5,578	580	90	180	.619	.71
September	3,072	282	72	102	.351	.39
Water year 1940-41	107,287	5,410	55	294	1.01	13.71

Peak discharge.- Apr. 5 (6:30 p.m.) 3,980 sec.-ft.; June 5 (5 p.m.) 7,560 sec.-ft.

Frankstown Branch of Juniata River at Huntingdon, Pa.

Location.- Water-stage recorder, lat. 40°29'05", long. 78°01'10", 450 feet downstream from Smithfield Bridge at Huntingdon, Huntingdon County, and 0.8 mile upstream from Standing Stone Creek. Datum of gage is 599.86 feet (revised) above mean sea level (unadjusted).

Drainage area.- 816 square miles.

Records available.- September 1941 in reports of U. S. Geological Survey. May 1895 to September 1914, October 1920 to February 1923 (gage heights and discharge measurements only), September 1941 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1914 obtained at Fourth Street Bridge, 2,000 feet downstream. Gage-height records collected at same sites from May 1895 to December 1938 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during period, 773 second-feet Sept. 13 (gage height, 2.16 feet); minimum, 40 second-feet Sept. 20 (gage height, 0.59 foot); minimum daily, 122 second-feet Sept. 28.
1895-1938, 1941: Maximum gage height, 21.87 feet Mar. 18, 1936, from floodmark (discharge not determined); minimum gage height observed, 0.5 foot Jan. 22, 1932 (discharge not determined).

Remarks.- Records good.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2												
3												
4												
5												
6												
7												
8												
9												312
10												138
11												280
12												260
13												258
14												303
15												213
16												248
17												240
18												262
19												160
20												244
21												216
22												226
23												227
24												214
25												258
26												277
27												122
28												211
29												256
30												
31												

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January						
February						
March						
April						
May						
June						
July						
August	4,925	312	122	235	0.288	0.22
September 10-30						
Water year						

Juniata River at Mapleton Depot, Pa.

Location.- Water-stage recorder, lat. 40°23'30", long. 77°56'10", a quarter of a mile downstream from Scrub Run and a third of a mile downstream from highway bridge at Mapleton Depot, Huntingdon County. Datum of gage is 556.89 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 2,030 square miles.

Records available.- December 1937 to September 1941.

Extremes.- Maximum discharge during year, 26,900 second-feet June 5 (gage height, 15.28 feet); minimum, 119 second-feet Sept. 28 (gage height, 1.45 feet); minimum daily, 240 second-feet Sept. 29.

1937-41: Maximum discharge, 40,500 second-feet (revised) Mar. 31, 1940 (gage height, 18.73 feet); minimum, 90 second-feet Oct. 2, 1938 (gage height, 1.35 feet); minimum daily, 173 second-feet Sept. 23, 1940.

Maximum stage known, 38.2 feet Mar. 18, 1936, from floodmark (discharge, 145,000 second-feet, from rating curve extended above 27,000 second-feet on basis of revised data for station at Newport).

Remarks.- Records good. Some regulation by hydroelectric plants and mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	408	490	676	3,990	990	1,150	3,310	1,110	786	1,000	1,250	544
2	409	884	756	3,310	1,030	1,130	3,440	965	966	746	727	572
3	390	1,150	795	3,570	1,080	1,330	3,570	958	823	1,200	670	521
4	336	878	613	3,440	1,010	3,680	3,570	1,010	2,630	3,910	666	546
5	362	946	684	2,990	794	3,570	6,470	844	17,100	4,280	618	1,300
6	379	670	670	2,310	962	3,440	14,200	903	21,800	3,470	649	1,330
7	356	556	796	1,870	1,010	2,850	11,700	874	10,400	2,530	568	847
8	390	597	655	1,750	828	2,480	7,530	872	5,880	3,180	533	854
9	347	470	892	1,750	1,010	2,130	5,710	1,080	4,130	2,160	454	710
10	352	570	960	1,680	795	1,780	4,730	834	3,100	1,270	493	660
11	359	388	1,460	1,590	808	2,590	3,990	881	2,670	1,540	368	449
12	303	533	1,850	1,480	984	2,090	3,310	858	2,520	3,330	590	408
13	372	525	2,300	1,340	1,040	2,170	3,130	816	2,350	2,140	848	424
14	288	593	2,810	1,200	1,400	2,350	2,680	742	2,370	1,830	669	438
15	333	1,050	2,570	1,080	2,250	2,990	2,450	744	2,420	1,510	780	471
16	299	1,310	2,420	1,120	2,570	3,890	2,300	780	2,560	1,420	2,350	462
17	312	1,340	4,730	1,090	2,130	5,540	2,310	916	2,470	1,630	1,120	380
18	332	1,080	4,280	1,380	1,780	4,390	2,250	741	2,640	938	594	390
19	308	839	3,310	1,190	1,240	3,090	2,190	772	2,710	1,130	606	396
20	372	796	2,640	926	1,250	2,900	2,240	712	2,330	1,080	863	350
21	328	670	2,450	794	1,180	3,710	1,970	762	2,120	918	779	270
22	315	709	1,860	855	1,220	4,430	1,660	602	1,960	758	718	310
23	350	618	1,730	1,120	1,420	4,890	1,430	646	1,730	754	699	354
24	362	766	1,480	1,520	1,090	5,210	1,470	653	1,280	698	724	366
25	362	590	1,380	1,090	1,260	5,880	1,240	586	1,190	750	551	401
26	340	712	1,630	1,370	1,270	5,710	951	608	624	616	696	321
27	396	747	2,810	1,070	1,340	5,050	883	616	616	630	990	420
28	322	678	3,880	1,050	1,440	4,580	870	507	605	669	946	286
29	349	714	6,960	1,140		4,280	1,170	624	704	664	620	240
30	492	668	6,770	1,050		3,850	1,090	1,580	603	870	717	355
31	510		5,050	1,130		3,570		1,720		1,960	604	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,133	510	288	359	0.177	0.20
November	22,537	1,340	388	751	.370	.41
December	71,867	6,960	613	2,318	1.14	1.32
Calendar year 1940	843,905	37,000	173	2,306	1.14	15.46
January	51,245	3,990	794	1,653	.814	.94
February	35,181	2,570	794	1,256	.619	.64
March	106,700	5,880	1,130	3,442	1.70	.95
April	103,814	14,200	870	3,460	1.70	1.80
May	26,316	1,720	507	849	.418	.48
June	104,087	21,800	603	3,470	1.71	1.91
July	49,581	4,280	616	1,599	.788	.91
August	23,460	2,350	368	757	.373	.43
September	15,375	1,330	240	512	.252	.28
Water year 1940-41	621,296	21,800	240	1,702	.838	11.37

Peak discharge.- Apr. 6 (5:30 p.m.) 16,200 sec.-ft.; June 5 (10:20 p.m.) 26,900 sec.-ft.

Juniata River at Newport, Pa.

Location.- Water-stage recorder, lat. 40°28'45", long. 77°07'45", at highway bridge at Newport, Perry County, 1,000 feet upstream from Little Buffalo Creek. Datum of gage is 363.16 feet above mean sea level, adjustment of 1912.

Drainage area.- 3,354 square miles.

Records available.- March 1899 to December 1913, October 1918 to September 1921, October 1923 to September 1926, October 1931 to September 1941 in reports of U. S. Geological Survey. March 1899 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 40 years (1899-1905, 1907-41), 4,352 second-feet.

Extremes.- Maximum discharge during year, 32,700 second-feet June 6 (gage height, 13.06 feet); minimum, 376 second-feet Sept. 24 (gage height, 2.93 feet); minimum daily, 403 second-feet Sept. 24.

1899-1941: Maximum discharge, 190,000 second-feet (revised) Mar. 19, 1936 (gage height, 34.24 feet, from floodmark in gage shelter), from rating curve extended above 100,000 second-feet; minimum, 260 second-feet (estimated) Aug. 27, 1925 (gage height, 2.71 feet); minimum daily, 286 second-feet Sept. 25, 1932.

Maximum stage known, 35.9 feet June 1, 1889, from floodmarks (discharge, about 209,000 second-feet; revised on basis of rating curve extended above 100,000 second-feet).

Remarks.- Records good except those for period of ice effect, which are poor. Some regulation at low flow by hydroelectric plants and mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	734	758	1,270	8,030	1,900	2,200	5,800	1,880	2,530	1,050	1,780	908
2	784	1,940	1,410	6,530	1,950	2,100	5,650	1,800	1,690	1,110	2,320	852
3	685	2,270	1,230	5,940	2,000	2,500	5,650	1,760	1,200	1,350	1,280	746
4	697	2,290	1,150	5,940	1,900	6,800	5,650	1,640	1,570	1,910	946	746
5	649	1,940	1,370	5,370	1,500	6,600	7,460	1,630	5,640	5,730	963	734
6	616	1,630	1,440	4,820	1,550	6,000	17,400	1,590	28,200	6,080	885	1,080
7	627	1,390	1,420	4,030	1,550	*5,370	21,000	1,510	22,200	4,820	864	1,760
8	758	1,120	1,510	3,400	1,550	4,420	15,300	1,610	11,700	3,660	838	1,460
9	685	992	1,550	*3,160	1,700	4,030	10,800	1,510	7,280	4,030	758	1,050
10	661	963	1,480	3,460	1,500	3,660	8,960	1,590	5,370	3,220	746	1,110
11	594	878	1,590	2,940	1,550	3,400	7,280	1,610	4,160	2,570	649	970
12	594	962	1,960	2,730	1,900	3,900	6,230	1,460	3,530	3,340	673	824
13	594	992	2,850	2,710	2,000	3,780	5,510	1,300	3,400	4,410	661	770
14	530	1,100	3,660	2,570	2,600	3,900	5,090	1,320	3,280	3,400	820	520
15	584	2,260	4,030	2,120	3,000	4,550	4,420	1,230	3,400	2,710	1,170	573
16	490	2,970	4,030	2,060	4,000	6,230	4,160	1,270	3,400	2,420	1,500	605
17	500	3,160	5,800	2,080	4,500	8,030	4,030	1,300	3,660	2,220	2,170	584
18	470	2,710	7,880	2,380	3,300	8,500	3,780	1,430	3,530	2,400	2,270	638
19	500	2,270	6,530	2,390	2,350	6,530	3,780	1,120	3,780	1,590	1,300	584
20	510	1,880	5,230	1,960	2,400	5,650	3,530	1,120	4,030	1,480	992	530
21	520	1,530	4,420	1,840	2,200	5,940	3,400	1,160	3,280	1,650	920	510
22	540	1,460	4,030	1,600	2,300	7,280	3,040	1,060	2,970	1,250	1,170	520
23	562	1,180	3,280	1,570	2,700	7,880	2,990	1,120	2,730	1,230	1,390	440
24	540	1,410	2,800	2,010	2,100	8,340	2,660	1,020	2,550	1,040	1,040	403
25	573	1,160	2,640	1,870	2,400	9,270	2,590	1,040	2,000	992	978	470
26	573	1,300	2,640	2,390	2,400	9,580	2,440	892	1,630	1,010	1,050	500
27	573	1,370	3,530	1,860	2,700	8,960	1,940	892	1,420	992	1,100	500
28	520	1,390	6,880	2,040	2,700	8,180	1,780	878	992	864	1,220	500
29	562	1,270	10,500	2,200		7,580	1,640	864	948	878	1,230	480
30	649	1,230	12,800	2,180		6,830	1,990	948	948	1,170	1,180	520
31	734		10,500	2,080		6,230		1,340		1,340	944	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	18,608	784	470	600	0.179	0.21
November	47,775	3,160	758	1,592	.475	.53
December	121,410	12,800	1,150	3,916	1.17	1.35
Calendar year 1940	1,408,186	53,000	470	3,848	1.15	15.62
January	96,260	8,030	1,570	3,105	.926	1.07
February	64,200	4,500	1,500	2,293	.684	.71
March	184,220	9,580	2,100	5,943	1.77	2.04
April	175,950	21,000	1,640	5,865	1.75	1.95
May	40,894	1,880	864	1,319	.393	.45
June	143,018	28,200	948	4,767	1.42	1.59
July	71,916	6,080	864	2,320	.692	.80
August	35,807	2,320	649	1,155	.344	.40
September	21,887	1,760	403	730	.218	.24
Water year 1940-41	1,021,945	28,200	403	2,800	.835	11.34

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Feb. 1 to Mar. 6.

Little Juniata River near Tyrone, Pa.

Location.- Staff gage, lat. 40°39'20", long. 78°15'25", at Pennsylvania Railroad bridge half a mile upstream from Hutchinson Run and 1¼ miles southwest of Tyrone, Blair County. Datum of gage is 905.35 feet above mean sea level (unadjusted).

Drainage area.- 101 square miles.

Records available.- December 1939 to September 1941.

Extremes.- 1939-40: Maximum discharge during period December to September, 4,240 second-feet Mar. 30 (gage height, 8.0 feet, from graph based on gage readings), from rating curve extended above 820 second-feet on basis of velocity-area studies at gage height 6.3 feet and by comparison with run-off for station at Spruce Creek; minimum, 12 second-feet Aug. 11, 12 (gage height, 0.36 foot).
1940-41: Maximum discharge during water year, 2,670 second-feet June 5 (gage height, 6.1 feet, from graph based on gage readings), from rating curve extended above 820 second-feet; minimum, 12 second-feet at times in September.
1939-41: Maximum discharge, that of Mar. 30, 1940; minimum, that of August 1940 and September 1941.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				17	15	62	1,450	194	282	252	18	24
2				17	15	77	950	224	224	152	18	19
3				17	15	157	850	199	202	138	15	16
4				16	16	297	1,260	178	178	124	18	20
5				16	17	210	1,050	165	162	105	18	16
6			19	16	22	186	707	155	135	93	17	15
7			19	16	35	152	542	150	164	82	17	13
8			20	16	33	129	850	138	989	77	14	19
9			18	15	32	115	801	165	704	70	14	27
10			18	15	34	101	581	138	379	63	14	33
11			24	15	60	120	467	124	542	70	15	19
12			18	16	110	131	486	122	414	75	12	15
13			18	17	180	140	379	126	329	54	16	15
14			20	20	100	188	329	124	252	47	39	14
15			18	160	60	160	297	89	224	41	20	15
16			18	70	45	135	282	113	178	56	17	14
17			20	35	42	120	238	107	152	42	19	14
18			18	27	41	312	467	105	210	40	19	14
19			18	24	45	925	448	103	210	36	44	14
20			46	21	140	663	1,270	384	143	31	16	14
21			48	20	120	467	1,050	313	118	29	19	16
22			31	19	100	396	801	267	107	29	14	19
23			26	18	85	313	581	238	101	30	14	14
24			22	18	78	252	467	207	111	37	14	15
25			19	18	72	224	396	297	105	30	15	56
26			20	17	68	205	346	224	91	24	52	29
27			17	17	64	188	297	238	133	27	44	17
28			16	17	63	449	252	202	101	41	27	16
29			17	16	65	449	224	188	138	29	20	16
30			19	16		1,920	207	175	107	23	18	15
31			18	15		2,210		252		18	20	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December 6-31	565	48	16	21.7	0.215	0.21
Calendar year						
January	757	160	15	24.4	.242	.28
February	1,772	180	15	61.1	.605	.65
March	11,453	2,210	62	369	3.65	4.22
April	18,325	1,450	207	611	6.05	6.75
May	5,704	384	89	184	1.82	2.10
June	7,185	989	91	239	2.37	2.65
July	1,965	252	18	63.4	.628	.72
August	637	52	12	20.5	.203	.23
September	563	56	13	18.8	.186	.21
Water year						

Note.- Stage-discharge relation affected by ice Dec. 22 to Mar. 1.

Little Juniata River near Tyrone, Pa.

(continued)

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	26	64	267	52	60	297	64	99	48	48	22
2	15	169	48	282	61	62	379	62	101	46	37	21
3	14	33	34	313	54	80	414	54	75	184	32	23
4	15	25	32	267	53	394	426	54	514	254	30	22
5	16	22	34	194	50	224	1,210	53	1,950	117	31	37
6	15	35	33	191	58	175	852	46	801	79	32	34
7	16	22	37	140	56	157	581	47	486	103	28	20
8	18	20	65	130	54	157	449	73	329	140	28	17
9	15	19	51	*125	48	140	396	65	267	89	27	16
10	14	20	93	115	45	122	297	61	207	75	26	18
11	15	19	154	104	46	137	267	47	173	149	24	20
12	15	32	132	93	48	130	238	44	153	283	26	15
13	15	24	260	84	60	122	205	39	168	111	29	13
14	14	23	199	78	72	186	191	39	140	89	26	14
15	15	72	157	76	92	224	173	43	133	75	171	13
16	15	51	440	90	84	252	154	61	135	89	65	15
17	15	36	414	80	78	224	150	61	150	77	37	15
18	15	33	297	73	*69	186	140	51	262	62	30	15
19	15	29	238	67	66	165	180	38	194	58	35	15
20	18	28	210	62	64	140	125	36	146	51	55	15
21	16	29	199	52	62	188	108	34	126	48	34	15
22	15	30	160	54	62	238	97	30	109	46	31	13
23	15	27	140	90	60	282	95	37	95	46	30	15
24	15	38	118	72	60	346	110	33	88	45	28	15
25	16	38	104	64	64	414	90	26	73	44	48	15
26	16	32	232	58	70	346	82	28	64	43	32	14
27	16	34	173	58	74	329	80	27	59	41	48	14
28	14	34	679	60	66	346	75	27	55	38	28	14
29	15	35	552	55		329	67	38	49	43	23	12
30	61	35	431	54		297	65	180	52	99	22	13
31	22		329	55		267		86		105	35	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	527	61	14	17.0	0.168	0.19
November	1,070	169	19	35.7	.353	.39
December	6,109	679	32	197	1.95	2.25
Calendar year 1940	56,067	2,210	12	153	1.51	20.64
January	3,503	313	52	113	1.12	1.29
February	1,728	92	45	61.7	.611	.64
March	6,719	414	60	217	2.15	2.47
April	7,993	1,210	65	266	2.63	2.94
May	1,584	180	26	51.1	.506	.58
June	7,253	1,950	49	242	2.40	2.67
July	2,777	283	38	89.6	.887	1.02
August	1,176	171	22	37.9	.375	.43
September	520	37	12	17.3	.171	.19
Water year 1940-41	40,959	1,950	12	112	1.11	15.06

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 27-29, Dec. 3-6, Jan. 20 to Feb. 1, Feb. 5 to Mar. 3.

Little Juniata River at Spruce Creek, Pa.

Location.- Water-stage recorder, lat. 40°36'45", long. 78°08'35", 150 feet downstream from Pennsylvania Railroad bridge, half a mile northwest of village of Spruce Creek, Huntingdon County, and half a mile upstream from Spruce Creek. Datum of gage is 749.53 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 220 square miles.

Records available.- June 1938 to September 1941.

Extremes.- Maximum discharge during year, 4,220 second-feet June 5 (gage height, 8.22 feet); minimum, 53 second-feet Oct. 10 (gage height, 1.48 feet); minimum daily, 65 second-feet Oct. 5, 12, 13, 15.
1938-41: Maximum discharge, 7,760 second-feet Mar. 31, 1940 (gage height, 10.82 feet), from rating curve extended above 3,100 second-feet; minimum, 52 second-feet Sept. 7, 26, Oct. 31, 1938, Sept. 12, 1939 (gage height, 1.47 feet); minimum daily, 60 second-feet (estimated) Nov. 26, 27, 1938.
Maximum stage known, about 19.1 feet at point 175 feet downstream Mar. 18, 1936, from floodmark (discharge not determined).

Remarks.- Records good. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	80	131	592	158	162	588	184	189	129	133	98
2	74	276	145	599	164	167	698	178	212	131	111	86
3	68	150	125	696	164	251	768	169	180	366	104	90
4	67	104	102	563	152	735	768	164	638	593	102	90
5	65	93	123	438	151	476	2,080	164	3,020	366	98	112
6	68	106	119	388	171	399	1,900	156	1,770	239	102	121
7	67	95	113	335	164	348	1,420	156	1,100	281	93	110
8	81	88	152	307	156	329	1,100	182	816	393	90	83
9	66	86	150	295	139	326	915	178	592	258	88	82
10	66	77	182	277	131	295	768	184	457	222	86	82
11	66	77	313	258	133	319	609	158	382	397	83	85
12	65	110	283	242	145	301	546	150	339	711	149	77
13	65	108	475	229	160	298	487	143	335	352	102	77
14	67	97	413	203	195	409	435	141	310	269	92	71
15	65	176	332	196	266	538	392	139	292	232	218	78
16	68	177	668	194	234	605	362	162	286	232	203	74
17	66	135	915	203	217	572	345	162	294	215	117	72
18	67	123	609	207	187	377	319	143	426	187	100	71
19	67	117	476	200	175	355	355	131	339	175	108	71
20	71	110	413	171	173	388	298	125	261	160	142	71
21	72	106	382	147	164	471	269	121	232	147	106	68
22	68	106	335	160	164	534	252	117	210	141	102	70
23	68	102	298	227	162	624	239	129	194	135	98	71
24	68	119	263	203	160	768	269	121	184	133	90	71
25	68	131	247	189	178	890	234	111	167	127	100	70
26	68	119	357	171	191	768	222	108	156	123	202	68
27	68	129	358	169	210	721	215	106	145	117	194	67
28	67	129	1,030	178	182	721	203	106	139	113	119	68
29	67	123	1,100	171		698	196	129	135	137	100	67
30	111	123	915	162		631	189	339	133	164	93	67
31	95		721	169		571		191		237	92	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,180	111	65	70.3	0.320	0.37
November	3,572	276	77	119	.541	.60
December	12,245	1,100	102	395	.180	2.07
Calendar year 1940	129,569	5,600	65	354	1.61	21.89
January	8,539	696	147	275	1.25	1.44
February	4,846	266	131	173	.786	.82
March	15,047	890	162	485	2.20	2.54
April	17,441	2,080	189	581	2.64	2.95
May	4,747	339	106	153	.695	.80
June	13,933	3,020	133	464	2.11	2.36
July	7,482	711	113	241	1.10	1.26
August	3,617	218	83	117	.532	.61
September	2,388	121	67	79.6	.362	.40
Water year 1940-41	96,037	3,020	65	263	1.20	16.22

Peak discharge.- Dec. 28 (11 a.m.) 1,480 sec.-ft.; Apr. 5 (1:30 p.m.) 3,000 sec.-ft.; June 5 (1 p.m.) 4,220 sec.-ft.; July 12 (2 a.m.) 1,330 sec.-ft.

Standing Stone Creek near Huntingdon, Pa.

Location.- Water-stage recorder, lat. 40°31'25", long. 77°58'15", at bridge on State Highway 545, 3¼ miles northeast of Huntingdon, Huntingdon County, and 3¼ miles upstream from mouth. Datum of gage is 617.81 feet above mean sea level (unadjusted).

Drainage area.- 128 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. October 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 11 years (1930-41), 135 second-feet.

Extremes.- Maximum discharge during year, 1,620 second-feet Apr. 5 (gage height, 5.35 feet); minimum, 6.5 second-feet Dec. 4 (gage height, 1.33 feet); minimum daily, 12 second-feet Sept. 5-7, 12.
1929-41: Maximum discharge, 5,500 second-feet Mar. 18, 1936 (gage height, 9.14 feet), from rating curve extended above 1,500 second-feet; minimum, 2.8 second-feet Feb. 11, 1931 (gage height, 0.64 foot); minimum daily, 7.6 second-feet Sept. 12-14, 18-26, 1932.
Maximum stage known. 9.38 feet June 1, 1889, from floodmark (discharge, about 5,920 second-feet).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	26	28	158	50	48	224	80	41	30	34	21
2	13	107	33	151	54	46	296	80	46	45	26	18
3	14	77	*23	184	45	50	279	73	38	43	22	18
4	14	40	21	160	40	250	259	70	103	209	21	32
5	12	30	24	105	36	160	828	68	865	160	24	49
6	12	26	23	85	40	130	943	65	387	70	27	44
7	12	26	22	75	50	95	528	63	149	71	22	31
8	16	25	24	70	45	84	408	74	96	62	18	22
9	14	20	26	68	40	96	338	80	73	76	16	21
10	13	19	29	64	34	88	287	81	60	52	16	18
11	13	17	34	57	35	90	245	66	53	125	17	17
12	12	26	48	51	39	95	216	60	50	199	20	17
13	14	44	137	47	45	110	194	56	53	89	21	15
14	13	32	139	45	60	125	174	53	53	60	16	14
15	15	143	87	*54	85	150	161	53	50	49	50	15
16	15	112	238	47	72	190	148	60	83	93	84	14
17	15	64	485	54	61	160	199	63	60	75	31	14
18	16	44	207	62	53	140	156	53	54	52	22	14
19	14	38	139	53	47	145	156	47	50	44	24	14
20	16	32	110	45	45	170	141	45	42	38	32	14
21	15	30	100	39	46	210	125	39	35	33	26	13
22	16	28	87	44	47	250	110	39	32	31	31	13
23	15	26	78	64	46	299	104	41	32	28	47	14
24	16	26	65	58	46	375	144	44	31	27	27	13
25	15	35	68	55	51	448	121	36	31	27	24	13
26	18	23	91	51	*62	357	106	35	27	26	59	14
27	16	25	131	50	61	353	100	35	27	24	95	13
28	16	27	400	56	54	360	94	33	24	22	42	14
29	18	28	428	53		314	89	37	24	25	28	14
30	29	25	285	52		253	83	86	29	63	23	14
31	34		203	52		215		41		49	22	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	487	34	12	15.7	0.123	0.14
November	1,221	143	17	40.7	.318	.36
December	3,813	485	21	123	.961	1.11
Calendar year 1940	47,432	2,900	12	130	1.02	13.78
January	2,209	184	39	71.3	.557	.64
February	1,389	85	34	49.6	.388	.40
March	5,846	448	46	189	1.48	1.70
April	7,256	943	83	242	1.89	2.11
May	1,756	86	33	56.6	.442	.51
June	2,698	865	24	89.9	.702	.78
July	1,997	209	22	64.4	.503	.58
August	967	95	16	31.2	.244	.28
September	557	49	13	18.6	.145	.16
Water year 1940-41	30,196	943	12	82.7	.646	8.77

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 26 to Dec. 12; Jan. 6 to Mar. 22.

Raystown Branch of Juniata River at Saxton, Pa.

Location.- Water-stage recorder, lat. 40°12'55", long. 78°15'55", at highway bridge half a mile west of Saxton, Bedford County, and 1¼ miles upstream from Shoup Run. Datum of gage is 794.73 feet above mean sea level (unadjusted).

Drainage area.- 756 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. August 1911 to September 1941 in reports of Pennsylvania Department of Forests and Waters. All records prior to October 1931 obtained at site 0.8 mile downstream.

Average discharge.- 30 years, 924 second-feet.

Extremes.- Maximum discharge during year, 12,700 second-feet June 5 (gage height, 10.20 feet); minimum, 90 second-feet Sept. 28, 30 (gage height, 1.08 feet).
1911-41: Maximum discharge, 80,500 second-feet Mar. 18, 1936 (gage height, 24.54 feet, from floodmark in gage shelter), by slope-area method; minimum, 52 second-feet Oct. 17, 18, 1930.
Maximum stage known prior to 1911, 23.0 feet, present site, June 1, 1889, from floodmark (discharge, about 71,300 second-feet).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	164	235	1,460	350	400	1,040	310	304	248	303	181
2	135	268	252	1,210	380	410	1,030	304	304	244	294	177
3	132	502	230	1,210	350	460	1,090	293	563	398	226	166
4	132	470	*210	1,290	320	900	1,140	288	1,320	1,220	196	161
5	128	322	290	1,090	300	1,600	2,390	271	10,400	2,140	181	305
6	125	268	300	796	330	1,200	7,140	266	9,270	1,210	174	378
7	115	226	290	765	350	900	4,170	255	3,720	821	159	277
8	122	207	328	671	330	760	2,670	250	2,120	765	155	239
9	118	188	347	560	310	720	2,020	260	1,420	789	155	196
10	112	176	410	530	280	650	1,580	266	1,020	550	152	177
11	112	164	737	480	300	760	1,330	271	813	437	142	159
12	112	176	1,010	450	340	710	1,130	260	678	450	258	152
13	110	188	960	420	380	680	964	250	765	597	195	142
14	110	207	1,310	*380	500	880	859	236	862	551	239	136
15	115	328	1,200	400	1,200	1,220	777	226	966	379	228	126
16	107	673	1,100	370	1,300	1,960	699	231	1,140	315	266	129
17	104	566	1,830	400	700	2,710	649	250	879	354	375	123
18	110	417	1,770	390	480	1,780	617	271	1,040	700	288	123
19	107	341	1,310	370	420	1,050	570	266	1,240	417	239	120
20	110	279	1,040	320	400	1,260	548	236	870	337	230	117
21	107	252	890	300	420	1,480	489	211	685	293	239	112
22	115	235	803	330	410	1,910	454	194	565	253	244	109
23	115	226	662	500	400	1,910	420	198	485	226	213	115
24	118	212	566	450	420	2,020	420	202	463	209	205	109
25	122	212	485	400	*480	2,300	454	198	535	200	188	103
26	122	246	774	370	580	2,130	427	194	397	226	213	101
27	118	257	1,420	350	600	1,740	388	181	326	205	277	103
28	115	230	1,720	390	500	1,560	363	172	288	217	313	98
29	122	235	3,390	380		1,480	339	177	263	198	292	95
30	135	258	2,830	360		1,320	327	231	234	286	230	98
31	141		1,960	370		1,160		231		293	196	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,684	141	104	119	0.157	0.18
November	8,493	673	164	283	.374	.42
December	30,656	3,390	210	989	1.31	1.51
Calendar year 1940	346,584	11,000	104	947	1.25	17.06
January	17,762	1,460	300	573	.758	.87
February	13,130	1,300	280	469	.620	.65
March	40,020	2,710	400	1,291	1.71	1.97
April	36,494	7,140	327	1,216	1.61	1.80
May	7,449	310	172	240	.317	.37
June	43,935	10,400	234	1,464	1.94	2.16
July	15,528	2,140	198	501	.663	.76
August	7,065	375	142	228	.302	.35
September	4,627	378	95	154	.204	.23
Water year 1940-41	228,843	10,400	95	627	.829	11.27

Peak discharge.- Apr. 6 (6 a.m.) 8,300 sec.-ft.; June 5 (11:30 p.m.) 12,700 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-7, Jan. 9 to Mar. 13.

Dunning Creek at Belden, Pa.

Location.- Water-stage recorder, lat. 40°04'20", long. 78°29'35", at highway bridge three-quarters of a mile southeast of Belden, Bedford County, and 3 3/4 miles north of Bedford. Datum of gage is 1,050.93 feet above mean sea level (unadjusted).

Drainage area.- 172 square miles.

Records available.- May 1939 to September 1941.

Extremes.- Maximum discharge during year, 2,830 second-feet Apr. 5 (gage height, 8.47 feet); minimum, 14 second-feet Oct. 1, 2, 6.
1939-41: Maximum discharge, 4,610 second-feet Mar. 31, 1940 (gage height, 11.23 feet); minimum not determined (occurred during period of ice effect); minimum daily, 14 second-feet Sept. 24-27, 1939, Sept. 23, Oct. 1, 2, 6, 1940.
Maximum stage known, 17.8 feet Mar. 18, 1936, from floodmarks (discharge not determined; affected by backwater from Raystown Branch of Juniata River).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	93	52	310	68	90	268	54	66	51	61	41
2	14	188	*89	295	67	130	319	53	83	51	43	37
3	16	f110	77	397	66	200	373	50	74	83	36	36
4	15	f70	56	334	62	450	367	48	763	283	33	36
5	15	58	*68	260	60	320	1,800	47	2,740	235	30	64
6	14	53	*66	220	64	270	1,900	45	1,670	159	30	66
7	15	47	65	190	66	230	866	45	604	181	26	44
8	17	41	110	140	64	214	545	49	355	245	26	36
9	16	38	117	120	60	200	403	53	247	143	24	35
10	16	36	211	110	56	180	322	53	188	111	24	32
11	15	36	325	100	52	183	268	47	148	113	23	29
12	15	40	274	90	56	180	226	42	176	150	90	27
13	15	45	425	78	139	172	197	40	241	143	42	26
14	15	43	403	*67	254	247	172	40	191	86	30	24
15	15	44	310	64	334	383	152	39	157	73	95	23
16	15	117	481	62	230	555	141	52	191	248	173	23
17	15	89	*492	66	170	526	133	56	249	220	76	22
18	15	78	397	70	130	301	120	51	379	106	55	21
19	16	66	301	66	110	271	117	41	262	84	73	20
20	18	60	259	60	105	290	103	39	203	64	90	19
21	19	56	235	56	110	478	89	38	165	53	56	19
22	19	53	191	60	100	565	81	36	157	48	48	18
23	19	f49	166	100	94	610	78	44	141	43	45	18
24	19	f53	144	98	110	695	96	45	164	40	44	18
25	18	58	130	82	*120	678	81	38	104	49	48	18
26	18	49	308	70	120	513	72	35	84	56	61	18
27	18	f56	289	68	110	418	67	35	71	39	198	17
28	18	f61	897	72	100	394	62	33	63	36	90	17
29	21	60	909	70		367	58	32	59	34	67	16
30	53	57	593	68		316	55	72	56	46	53	16
31	34		403	68		274		64		135	48	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	562	53	14	18.1	0.105	0.12
November	1,904	188	36	63.5	.369	.41
December	8,843	909	52	285	1.66	1.91
Calendar year 1940	78,859	3,940	14	215	1.25	17.03
January	3,911	397	56	126	.733	.85
February	3,077	334	52	110	.640	.67
March	10,700	695	90	345	2.01	2.31
April	9,531	1,900	55	318	1.85	2.06
May	1,416	72	32	45.7	.266	.31
June	10,031	2,740	56	334	1.94	2.17
July	3,408	283	34	110	.640	.74
August	1,838	198	23	59.3	.345	.40
September	836	66	16	27.9	.162	.18
Water year 1940-41	56,057	2,740	14	154	.895	12.13

Peak discharge.- Dec. 28 (2:30 p.m.) 1,300 sec.-ft.; Apr. 5 (10 p.m.) 2,830 sec.-ft.; June 5 (6:30 p.m.) 3,310 sec.-ft.
* Winter discharge measurement made on this day.
f Discharge based on partial gage-height record.
Note.- Stage-discharge relation affected by ice Jan. 5 to Feb. 12, Feb. 16 to Mar. 7.

Brush Creek at Gapsville, Pa.

Location.- Water-stage recorder and concrete control, lat. 39°57'20", long. 78°15'15", at highway bridge three-quarters of a mile northwest of Gapsville, Bedford County, and 5½ miles upstream from Shaffer Creek. Datum of gage is 1,122.39 feet above mean sea level, datum of 1929.

Drainage area.- 36.8 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. November 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 10 years (1931-41), 45.8 second-feet.

Extremes.- Maximum discharge during year, 596 second-feet June 5 (gage height, 4.83 feet); minimum, 1.3 second-feet Sept. 28, 30 (gage height, 1.48 feet).
1929-41: Maximum discharge, 6,870 second-feet Mar. 17, 1936 (gage height, 9.81 feet), from rating curve extended above 2,600 second-feet; minimum, 0.2 second-foot Aug. 28, Sept. 12, 20-23, 1932.

Remarks.- Records good. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	6.4	14.6	74	20	20	52	18.1	18.2	12.4	9.1	4.3
2	4.7	40	18.8	67	19.5	19.6	50	17.6	21	14.4	7.8	4.3
3	5.6	24	17.7	67	19.4	31	44	16.5	16.8	45	6.1	4.8
4	4.7	13.7	15.2	59	17.6	52	41	15.8	266	250	6.6	24
5	3.7	11.3	14.7	47	17.1	34	278	15.2	478	155	5.1	28
6	3.4	10.0	12.8	43	18.7	34	254	14.3	298	94	5.7	14.2
7	3.6	9.4	12.0	36	19.4	31	187	14.4	180	74	6.3	9.1
8	3.8	8.4	13.8	33	19.2	32	145	14.5	118	61	4.2	7.1
9	4.5	7.7	13.6	32	17.6	41	116	14.8	85	47	4.9	6.0
10	2.4	7.1	16.6	31	15.2	36	92	14.5	65	38	4.3	5.2
11	3.3	7.1	25	30	15.8	49	76	13.4	52	35	4.5	4.3
12	2.9	10.4	26	26	21	51	65	12.8	49	40	10.1	3.5
13	2.8	10.2	35	25	27	43	58	12.1	52	33	6.2	3.7
14	2.9	11.7	39	22	54	47	52	11.5	41	25	5.6	2.9
15	3.2	81	36	21	56	76	48	11.3	38	21	9.9	3.6
16	2.7	51	58	20	38	133	44	15.2	40	18.2	11.6	2.8
17	2.8	35	88	23	36	102	40	13.8	37	16.7	5.9	2.1
18	2.6	26	68	24	30	71	37	13.4	66	15.0	5.6	3.3
19	3.3	20	59	21	31	67	33	11.6	64	13.9	7.8	2.5
20	2.9	17.6	52	18.8	30	71	31	9.8	45	12.7	9.4	2.4
21	3.8	15.8	46	15.9	30	71	29	9.3	37	11.5	6.1	1.6
22	3.8	14.7	39	17.2	28	68	26	8.9	30	10.3	8.0	2.5
23	3.1	13.1	34	30	26	72	25	8.4	39	9.7	9.8	2.4
24	3.3	14.1	28	26	23	86	30	9.2	42	9.6	5.9	2.0
25	3.5	13.6	26	94	26	102	26	7.4	30	9.1	8.6	1.7
26	3.4	13.0	87	19.5	26	97	24	7.7	23	9.4	9.2	2.0
27	3.4	14.6	92	19.7	22	88	22	7.8	18.6	8.0	9.4	1.9
28	3.8	13.4	125	22	19.5	79	19.9	6.8	16.1	7.5	7.3	1.3
29	3.1	11.8	139	21		70	19.0	7.1	14.8	8.2	4.9	2.1
30	7.1	11.6	118	20		62	18.0	18.9	14.2	15.7	4.4	1.6
31	7.1		92	20		56		12.3		11.8	4.0	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	115.0	7.1	2.4	3.71	0.101	0.12
November	543.7	81	6.4	18.1	.492	.55
December	1,461.8	139	12.0	47.2	1.28	1.48
Calendar year 1940	18,044.0	434	2.4	49.3	1.34	18.25
January	955.1	74	15.9	30.8	.837	.97
February	723.0	56	15.2	25.8	.701	.73
March	1,891.6	133	19.6	61.0	1.66	1.91
April	1,981.9	278	18.0	66.1	1.80	2.00
May	384.4	18.9	6.8	12.4	.337	.39
June	2,294.7	478	14.2	76.5	2.08	2.32
July	1,132.1	250	7.5	36.5	.992	1.14
August	214.3	11.6	4.0	6.91	.188	.22
September	157.2	28	1.3	5.24	.142	.16
Water year 1940-41	11,854.8	478	1.3	32.5	.883	11.99

Yellow Creek at Loysburg, Pa.

Location.- Staff gage, lat. 40°09'35", long. 78°21'50", three-quarters of a mile downstream from Beaver Creek and three-quarters of a mile east of Loysburg, Bedford County. Altitude of gage, 1,195 feet (from topographic map).

Drainage area.- 69.4 square miles.

Records available.- June to December 1941 (discontinued).

Extremes.- Maximum discharge observed during period, 485 second-feet July 12 (gage height, 2.80 feet), from rating curve extended above 85 second-feet; minimum observed, 17 second-feet Dec. 12 (gage height, 0.69 foot).

Remarks.- Records fair.

Discharge, in second-feet, for period June to December 1941

Day	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		53	49	41	37	40	22
2		51	56	43	40	29	28
3		117	49	43	35	29	25
4		95	48	56	43	28	30
5		71	45	62	36	27	36
6		56	46	48	43	43	28
7		62	44	44	35	34	25
8		60	40	46	32	25	25
9		56	43	37	34	22	33
10		53	41	43	35	28	22
11		49	41	41	31	26	28
12		93	118	39	31	38	17
13		64	44	40	32	30	20
14		56	38	40	45	25	25
15		55	69	41	44	27	22
16		62	46	32	27	30	21
17		56	43	41	29	28	22
18		53	40	35	31	32	23
19		51	58	40	28	30	24
20	82	46	60	36	31	35	24
21	a73	49	47	37	30	24	21
22	64	53	47	42	27	25	21
23	73	46	44	35	36	40	35
24	69	34	42	38	34	27	226
25	53	55	51	43	31	20	105
26	51	49	63	40	28	22	102
27	49	44	60	37	37	25	90
28	46	49	58	37	28	24	90
29	46	89	48	41	20	20	72
30	58	96	37	43	21	26	59
31		84	43		29		66

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
June 20-30	664	82	46	60.4	0.870	0.36
July	1,907	117	34	61.5	.886	1.02
August	1,558	118	37	50.3	.725	.83
September	1,241	62	32	41.4	.596	.66
October	1,020	45	20	32.9	.474	.55
November	859	43	20	28.6	.412	.46
December	1,387	226	17	44.7	.644	.74

a No gage-height record; discharge interpolated.

Great Trough Creek near Marklesburg, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°21'00", long. 78°07'50", at highway bridge half a mile upstream from mouth and 3 miles southeast of Marklesburg, Huntingdon County. Datum of gage is 714.48 feet above mean sea level.

Drainage area.- 84.6 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. January 1930 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 11 years, 90.1 second-feet.

Extremes.- Maximum discharge during year, 1,460 second-feet June 5; maximum gage height, 4.70 feet Mar. 4 (ice jam); minimum discharge, 3.2 second-feet Oct. 13 (gage height, 0.58 foot).
1930-41: Maximum discharge, 9,580 second-feet Mar. 17, 1936 (gage height, 8.46 feet), from rating curve extended above 600 second-feet; minimum, 0.6 second-foot Sept. 22, 23, 1932, Sept. 3, 1934.

Remarks.- Records good except those for periods of ice effect and those for periods of no gage-height record, all of which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	11.0	13.3	115	29	24	147	40	47	30	33	8.6
2	5.2	18.3	22	110	29	27	156	39	56	31	23	8.2
3	4.8	36	*12.5	124	28	50	144	38	49	46	16.3	7.5
4	4.6	18.0	11.0	110	26	230	134	34	260	156	14.4	11.2
5	4.8	12.2	13.0	95	25	140	572	36	1,180	169	12.7	33
6	4.3	10.2	12.5	84	27	120	775	32	865	103	12.5	63
7	4.4	8.6	12.0	75	28	100	439	31	425	81	11.7	27
8	4.6	7.5	13.0	60	28	94	301	30	255	75	10.0	17.3
9	4.3	6.0	16.2	50	25	93	229	33	170	64	9.5	14.7
10	4.1	6.4	21	48	23	82	191	35	134	49	9.0	12.2
11	4.1	6.4	41	47	22	85	161	36	104	84	9.6	10.3
12	3.7	7.0	43	41	23	82	139	32	99	275	31	7.9
13	3.5	8.0	60	39	35	80	124	28	117	122	27	7.7
14	4.1	11.0	79	*35	70	74	113	27	108	89	13.8	6.7
15	3.9	55	59	33	160	90	102	26	119	68	22	6.4
16	3.9	64	*84	32	80	159	91	30	162	54	60	6.2
17	3.9	43	*238	33	60	262	87	28	149	51	28	6.2
18	3.5	30	136	35	45	147	81	28	140	43	17.6	5.6
19	5.0	23	97	30	40	a140	75	25	199	36	18.2	5.0
20	4.6	18.4	77	27	38	151	70	23	131	32	23	5.4
21	3.9	16.3	71	23	40	232	62	19.4	106	28	a20	5.2
22	4.4	15.2	64	25	38	236	59	18.4	85	27	a18	4.8
23	4.6	14.1	55	44	34	217	55	21	77	24	a17	4.6
24	4.3	13.0	49	38	31	255	70	20	73	23	15.6	4.8
25	4.3	13.0	60	35	*34	313	65	18.0	62	21	12.5	4.8
26	4.6	13.8	82	29	35	250	57	17.2	49	18.7	15.8	4.8
27	4.4	18.2	134	29	31	221	51	14.9	41	17.2	38	4.6
28	4.4	16.0	266	32	26	217	48	13.8	36	15.7	21	4.1
29	4.8	13.9	295	30		198	43	19.5	33	17.5	14.9	4.1
30	6.4	12.4	202	29		170	43	73	31	35	11.0	3.9
31	10.2		144	29		153		62		44	9.5	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	143.0	10.2	3.5	4.61	0.054	0.06
November	545.9	64	6.0	18.2	.215	.24
December	2,482.5	295	11	80.1	.947	1.09
Calendar year 1940	36,203.2	2,780	3.5	98.9	1.17	15.92
January	1,566	124	23	50.5	.597	.69
February	1,110	160	22	39.6	.468	.49
March	4,692	313	24	151	1.78	2.06
April	4,684	775	43	156	1.84	2.06
May	928.2	73	13.8	29.9	.353	.41
June	5,362	1,180	31	179	2.12	2.36
July	1,929.1	275	15.7	62.2	.735	.85
August	595.6	60	9.0	19.2	.227	.26
September	315.8	63	3.9	10.5	.124	.14
Water year 1940-41	24,354.1	1,180	3.5	66.7	.788	10.71

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Dec. 3-8; Jan. 5 to Mar. 15.

Aughwick Creek near Three Springs, Pa.

Location.- Water-stage recorder, lat. 40°12'45", long. 77°55'30", at bridge on State Highway 377, 300 feet upstream from East Broad Top Railroad bridge, 350 feet upstream from Three Springs Creek, and 3½ miles northeast of village of Three Springs, Huntingdon County. Datum of gage is 618.65 feet above mean sea level (unadjusted).

Drainage area.- 205 square miles.

Records available.- May 1938 to September 1941.

Extremes.- Maximum discharge during year, 4,190 second-feet June 5 (gage height, 9.08 feet); minimum, 5.3 second-feet Sept. 28, 29 (gage height, 1.87 feet).
1938-41: Maximum discharge, 6,030 second-feet Dec. 10, 1938 (gage height, 10.63 feet), from rating curve extended above 2,700 second-feet; minimum, 4.3 second-feet Aug. 31, 1938 (gage height, 1.79 feet).
Maximum stage known, about 19.3 feet June 1, 1889 (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	45	62	336	50	72	245	78	62	55	46	19
2	25	182	99	288	52	90	235	78	70	61	35	15
3	37	198	80	324	54	150	213	72	66	140	30	15
4	37	108	66	280	50	450	196	69	851	904	25	15
5	26	78	*72	190	48	370	1,240	66	3,280	807	23	21
6	21	66	68	160	48	280	1,650	63	1,410	369	23	42
7	20	56	70	140	46	180	879	62	614	273	20	37
8	19	49	72	115	43	120	608	60	a400	230	18	26
9	20	43	76	110	42	160	517	62	270	165	16	20
10	20	39	90	105	40	190	384	74	203	122	15	17
11	19	35	120	100	39	160	324	66	159	116	15	14
12	17	42	163	96	47	165	280	55	144	207	29	13
13	16	75	211	90	74	160	250	51	196	259	58	12
14	16	68	242	82	115	180	225	48	163	148	30	11
15	14	506	201	75	220	270	203	47	173	109	31	10
16	17	386	342	*72	200	420	187	50	363	88	63	9.6
17	15	228	794	78	150	500	180	59	265	78	50	9.1
18	18	160	464	100	110	250	167	54	638	69	30	8.6
19	22	118	306	96	80	230	163	48	624	62	30	8.6
20	22	97	255	86	72	260	143	42	354	55	36	9.1
21	23	86	225	76	72	400	129	37	247	48	37	7.7
22	24	76	187	73	74	451	112	35	187	44	31	6.3
23	26	69	160	72	72	448	106	36	148	40	26	6.0
24	23	66	131	96	90	505	137	38	136	38	21	6.0
25	22	68	114	90	120	608	133	37	122	38	23	6.0
26	21	63	324	80	160	497	108	29	93	34	27	5.6
27	21	62	545	76	*140	430	101	27	77	32	58	6.0
28	22	81	810	66	90	384	92	26	68	29	45	5.6
29	19	63	970	60		339	86	30	62	30	29	5.3
30	33	55	671	50		290	81	114	59	42	23	5.3
31	54		448	52		258		91		54	19	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	717	54	14	23.1	0.113	0.13
November	3,268	506	35	109	.532	.59
December	8,438	970	62	272	1.33	1.53
Calendar year 1940	83,466	3,840	11	228	1.11	15.15
January	3,714	336	50	120	.585	.67
February	2,398	220	39	85.6	.418	.44
March	9,267	608	72	299	1.46	1.68
April	9,374	1,650	81	312	1.52	1.70
May	1,704	114	26	55.0	.268	.31
June	11,504	3,280	59	383	1.87	2.09
July	4,746	904	29	153	.746	.86
August	962	63	15	31.0	.151	.17
September	391.8	42	5.3	13.1	.064	.07
Water year 1940-41	56,483.8	3,280	5.3	155	.756	10.24

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Dec. 3-11; Jan. 5 to Mar. 21.

Kishacoquillas Creek at Reedsville, Pa.

Location.- Water-stage recorder, lat. 40°39'15", long. 77°35'00", at highway bridge 1 mile southeast of Reedsville, Mifflin County, and 1 mile downstream from Honey Creek. Datum of gage is 550.80 feet above mean sea level, adjustment of 1912.

Drainage area.- 164 square miles.

Records available.- November 1939 to September 1941.

Extremes.- Maximum discharge during year, 1,110 second-feet Apr. 5 (gage height, 5.74 feet); minimum, 16 second-feet Sept. 30 (gage height, 1.22 feet); minimum daily, 24 second-feet Sept. 26-28, 30.

1939-41: Maximum discharge, 4,870 second-feet Mar. 31, 1940 (gage height, 9.58 feet), from rating curve extended above 2,400 second-feet; minimum daily, 14 second-feet (estimated) Jan. 9-12, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Some regulation at low flow by mill upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	41	71	375	94	95	401	127	64	77	74	42
2	36	150	79	351	97	96	456	122	62	106	59	40
3	38	113	66	363	98	133	485	117	59	83	52	37
4	38	82	57	328	92	340	485	116	99	177	49	38
5	34	69	64	276	a90	234	763	113	379	175	48	43
6	33	a62	63	259	a86	220	852	109	286	128	45	41
7	36	a58	59	232	a84	196	700	107	209	130	43	35
8	36	a54	61	214	a82	188	601	114	171	180	41	36
9	37	a52	63	210	a80	183	515	111	146	141	38	34
10	36	a50	65	201	a79	169	456	113	125	120	38	33
11	33	a53	90	188	78	169	401	104	113	128	38	32
12	32	a60	90	174	83	164	363	97	106	141	41	31
13	30	a75	127	168	83	156	340	95	106	112	39	28
14	33	a78	135	146	87	161	316	90	103	101	36	29
15	32	a195	122	140	113	187	283	87	123	88	77	30
16	30	a160	212	136	120	244	268	92	164	117	93	29
17	30	a140	351	146	118	283	257	89	121	100	57	28
18	30	a125	294	147	100	224	238	85	121	87	49	28
19	28	113	265	136	105	224	228	81	121	78	49	27
20	30	106	244	118	102	262	214	75	100	73	58	25
21	31	100	226	106	100	428	197	70	90	68	50	26
22	30	93	209	109	97	424	187	69	84	63	45	28
23	30	86	192	122	94	414	178	80	93	60	46	30
24	28	88	171	125	94	442	190	76	100	60	41	25
25	29	89	158	116	96	470	173	66	81	57	44	26
26	28	82	171	111	101	456	160	61	72	54	95	24
27	27	83	194	107	112	470	153	60	67	51	82	24
28	29	79	320	106	106	485	146	62	63	49	60	24
29	28	75	401	101		470	135	58	62	53	51	25
30	41	70	442	98		428	131	89	60	75	46	24
31	47		401	100		388		63		106	43	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,015	47	27	32.7	0.199	0.23
November	2,681	195	41	89.4	.545	.61
December	5,463	442	57	176	1.07	1.24
Calendar year 1940	67,222	3,460	14	184	1.12	15.26
January	5,509	375	98	178	1.09	1.25
February	2,671	120	78	95.4	.582	.61
March	8,803	485	95	284	1.73	2.00
April	10,272	852	131	342	2.09	2.33
May	2,798	127	58	90.3	.551	.63
June	3,550	379	59	118	.720	.81
July	3,038	180	49	98.0	.598	.69
August	1,627	95	36	52.5	.320	.37
September	922	43	24	30.7	.187	.21
Water year 1940-41	48,349	852	24	132	.805	10.98

Peak discharge.- Mar. 21 (8:30 p.m.) 785 sec.-ft.; Apr. 5 (5:15 p.m.) 1,110 sec.-ft.; June 5 (3:30 p.m.) 601 sec.-ft.

a No gage-height record; discharge computed on basis of records for nearby stations.

Tuscarora Creek near Port Royal, Pa.

Location.- Water-stage recorder, lat. 40°30'55", long. 77°25'10", at highway bridge 2 miles southwest of Port Royal, Juniata County, and 3½ miles upstream from mouth. Datum of gage is 419.80 feet above mean sea level (unadjusted).

Drainage area.- 214 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey; August 1911 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 30 years, 254 second-feet.

Extremes.- Maximum discharge during year, 2,690 second-feet Apr. 6 (gage height, 8.23 feet); minimum, 4.5 second-feet Sept. 26 (gage height, 2.23 feet); minimum daily, 6.2 second-feet Sept. 29.

1911-41: Maximum discharge, 14,400 second-feet (estimated) Mar. 18, 1936; maximum gage height, 21.60 feet Mar. 19, 1936, from floodmark (affected by backwater from Juniata River); minimum discharge, 1 second-foot Aug. 31, Sept. 4-6, 14, 18, 1913, Sept. 21, 1914.

Maximum stage known prior to 1911, 20.5 feet June 1, 1889 (affected by backwater, discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at medium and low flows by gristmills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	65	63	417	62	90	315	96	61	32	40	16
2	32	297	94	350	64	95	325	92	55	32	36	18
3	34	338	88	367	68	150	305	88	51	37	22	16
4	38	156	70	315	64	606	279	83	137	291	24	15
5	36	106	74	200	60	544	1,110	83	1,190	341	26	18
6	27	87	72	*190	60	392	1,870	77	987	176	25	33
7	31	73	74	170	58	255	975	75	372	111	26	35
8	30	62	77	160	54	167	714	84	235	86	24	24
9	32	53	77	155	52	221	566	77	168	67	22	19
10	30	49	79	150	50	261	469	83	131	53	18	18
11	31	51	129	130	50	218	396	75	105	316	21	15
12	27	58	146	120	56	229	343	67	92	259	21	14
13	22	75	195	110	70	215	304	62	113	165	20	12
14	26	78	218	100	110	247	279	59	118	97	23	8.8
15	27	449	178	95	200	369	249	55	105	66	63	9.0
16	25	434	272	90	240	576	232	60	128	56	103	14
17	23	232	789	100	*200	690	221	65	133	50	60	12
18	24	160	489	125	140	350	207	57	122	42	36	9.8
19	23	120	305	120	100	308	199	54	97	44	30	9.2
20	19	97	232	105	90	352	181	48	72	30	29	9.4
21	29	89	207	95	90	628	166	45	60	38	29	8.0
22	27	*80	175	90	94	712	147	42	52	30	29	6.8
23	26	71	146	90	92	613	138	45	56	30	27	12
24	25	71	122	120	96	634	176	56	53	28	20	10
25	29	77	105	115	110	712	168	39	47	29	28	9.7
26	28	70	149	100	120	597	135	42	43	28	26	9.9
27	23	65	463	95	110	516	124	37	37	22	24	9.3
28	29	74	769	82	90	477	118	36	36	24	22	7.4
29	27	67	1,040	76		436	109	46	30	27	24	6.2
30	34	67	802	62		378	101	90	34	32	21	11
31	56		560	66		332		78		44	16	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	904	56	19	29.2	0.136	0.16
November	3,771	449	49	126	.589	.66
December	8,259	1,040	63	266	1.24	1.44
Calendar year 1940	79,995	4,330	13	219	1.02	13.91
January	4,560	417	62	147	.687	.79
February	2,650	240	50	94.6	.442	.46
March	12,370	712	90	399	1.86	2.15
April	10,921	1,870	101	364	1.70	1.90
May	1,996	96	36	64.4	.301	.35
June	4,920	1,190	30	164	.766	.86
July	2,683	341	22	86.5	.404	.47
August	934	103	16	30.1	.141	.16
September	415.5	35	6.2	13.8	.064	.07
Water year 1940-41	54,383.5	1,870	6.2	149	.696	9.47

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 3-6; Jan. 5 to Mar. 3.

Cocolamus Creek near Millerstown, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°33'55", long. 77°07'05", at highway bridge 2.3 miles northeast of Millerstown, Perry County, and 3 miles upstream from mouth. Datum of gage is 425.50 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 57.2 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. February 1930 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 11 years, 68.1 second-feet.

Extremes.- Maximum discharge during year, 990 second-feet Dec. 28 (gage height, 4.55 feet); minimum, 1.8 second-feet Sept. 29, 30 (gage height, 1.52 feet).
1930-41: Maximum discharge, 4,560 second-feet Aug. 24, 1933 (gage height, 8.20 feet); minimum, 0.7 second-foot Aug. 15, 1932 (gage height, 0.81 foot); minimum daily, 1.3 second-feet Aug. 28, 1932.

Remarks.- Records good except those for period of ice effect and those for period of no gage-height record, all of which are poor. Some regulation at low flow by gristmill upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	23	44	181	24	29	114	27	14	8.6	12	3.8
2	20	382	57	145	25	30	119	25	9.0	16	8.6	3.6
3	23	162	43	125	24	42	108	24	14	14	6.8	3.6
4	20	97	34	115	22	225	93	20	32	76	4.2	3.2
5	15	75	42	100	20	145	a130	24	195	52	6.0	5.0
6	14	61	36	*88	21	100	a195	22	93	27	5.4	10
7	17	49	34	77	22	80	a170	21	51	23	4.6	6.8
8	55	42	37	70	21	62	a150	31	34	27	4.0	3.8
9	26	36	37	62	20	58	a125	25	31	18	4.2	4.2
10	22	30	37	54	19	54	a110	28	22	13	4.0	7.0
11	17	32	52	52	18	54	93	21	17	14	3.0	5.8
12	17	56	52	50	19	56	82	16	20	41	5.3	3.2
13	15	44	86	38	25	58	72	20	22	74	4.7	2.7
14	14	48	93	34	43	64	72	16	22	29	3.4	3.2
15	15	305	82	33	85	150	60	16	26	20	15	2.8
16	12	188	181	32	80	220	55	17	31	25	27	2.8
17	13	119	308	37	*70	150	58	20	21	30	10	3.4
18	12	*93	189	38	50	100	50	16	17	16	4.7	3.0
19	12	72	136	34	36	100	47	14	15	16	7.4	2.7
20	12	63	114	29	30	140	40	14	14	11	8.6	2.5
21	10	55	100	26	30	218	41	13	13	8.5	7.8	2.5
22	13	50	84	30	31	216	35	14	11	12	6.4	2.5
23	11	44	72	28	31	213	34	46	7.8	10	6.6	2.4
24	11	49	61	25	32	219	48	19	14	9.7	5.2	4.0
25	11	44	54	24	34	245	39	13	12	7.4	3.6	2.8
26	21	37	134	23	32	215	34	12	9.8	8.8	6.8	2.5
27	10	43	174	23	30	194	31	15	9.2	6.8	13	2.8
28	8.1	38	562	22	29	181	33	10	7.5	4.7	9.6	3.0
29	11	36	593	22		164	30	11	6.4	6.6	6.1	2.0
30	42	34	421	21		132	29	8.5	5.8	7.6	4.6	1.8
31	32		250	22		117		8.5		15	4.2	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	553.1	55	8.1	17.8	0.311	0.36
November	2,407	382	23	80.2	1.40	1.56
December	4,199	593	34	135	2.36	2.73
Calendar year 1940	33,351.4	1,740	2.3	91.1	1.59	21.68
January	1,660	181	21	53.5	.935	1.08
February	923	85	18	33.0	.577	.60
March	4,031	245	29	130	2.27	2.62
April	2,297	195	29	76.6	1.34	1.49
May	587.0	46	8.5	18.9	.330	.38
June	796.5	195	5.8	26.6	.465	.52
July	647.7	76	4.7	20.9	.365	.42
August	222.8	27	3.0	7.19	.126	.14
September	109.4	10	1.8	3.65	.064	.07
Water year 1940-41	18,433.5	593	1.8	50.5	.883	11.97

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of one discharge measurement and records for nearby station.
Note.- Stage-discharge relation affected by ice Jan. 2 to Mar. 20.

Sherman Creek at Shermandale, Pa.

Location.- Water-stage recorder, lat. 40°19'25", long. 77°10'05", at highway bridge at Shermandale, Perry County, 1¼ miles upstream from Fishing Run. Datum of gage is 421.90 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 200 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. September 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 12 years, 253 second-feet.

Extremes.- Maximum discharge during year, 3,080 second-feet Apr. 5 (gage height, 5.82 feet); minimum, 9.5 second-feet Sept. 30 (gage height, 0.77 foot); minimum daily, 10 second-feet Sept. 30.
1929-41: Maximum discharge, 18,800 second-feet Aug. 24, 1933 (gage height, 14.05 feet), from rating curve extended above 6,500 second-feet; minimum, 3.9 second-feet Dec. 1, 1930 (gage height, 0.72 foot); minimum daily, 10 second-feet Dec. 24, 25, 1930, Sept. 30, 1941.
Maximum stage known, 20.34 feet July 22, 1927, from floodmark (discharge, about 37,000 second-feet).

Remarks.- Records good except those for periods of ice effect, which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	73	120	671	*98	140	404	139	67	52	49	21
2	50	837	200	567	100	150	425	132	64	50	42	17
3	55	404	140	578	105	180	409	117	61	118	36	24
4	52	200	110	510	100	500	372	123	204	422	31	22
5	43	143	120	360	96	389	1,330	116	930	393	32	31
6	34	121	115	310	94	330	2,000	109	637	202	31	44
7	44	103	110	280	92	256	1,120	105	288	154	29	40
8	111	92	110	230	86	190	852	116	194	168	28	28
9	103	83	115	220	82	255	710	121	154	112	28	30
10	65	73	121	210	80	241	600	135	120	85	26	26
11	52	83	148	200	78	240	510	109	103	92	20	32
12	48	109	149	190	90	244	447	99	96	107	40	32
13	39	129	185	180	110	263	404	90	123	74	37	28
14	44	153	*207	160	170	333	378	87	127	70	33	24
15	38	932	184	150	329	514	336	84	105	62	38	27
16	41	540	332	145	316	903	311	90	117	57	69	16
17	34	325	732	155	220	868	303	90	181	53	52	23
18	44	236	442	200	160	*412	276	86	374	49	36	19
19	32	180	338	190	145	350	252	74	212	46	38	16
20	41	155	304	170	140	395	238	71	136	35	37	18
21	39	143	279	150	140	536	219	64	98	46	37	16
22	42	132	240	145	145	515	202	62	86	37	32	19
23	44	124	211	140	140	505	191	66	113	37	42	11
24	41	118	184	190	160	594	241	64	137	40	22	20
25	36	134	174	180	200	754	216	56	85	39	29	15
26	37	118	508	160	230	660	181	58	68	36	30	15
27	36	130	796	150	160	594	168	51	61	36	31	16
28	39	132	1,400	130	140	578	161	48	56	32	25	15
29	38	110	1,830	120		536	148	53	60	32	25	18
30	67	105	1,330	100		466	145	72	62	37	23	10
31	82		880	105		413		66		50	19	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,513	111	32	48.8	0.244	0.28
November	6,217	932	73	207	1.04	1.16
December	12,114	1,830	110	391	1.96	2.25
Calendar year 1940	105,049	4,210	23	287	1.44	19.53
January	7,246	671	100	234	1.17	1.35
February	4,006	329	78	143	.715	.74
March	13,304	903	140	429	2.14	2.47
April	13,549	2,000	145	452	2.26	2.52
May	2,753	139	48	88.8	.444	.51
June	5,119	930	56	171	.855	.95
July	2,823	422	32	91.1	.456	.52
August	1,047	69	19	33.8	.169	.19
September	673	44	10	22.4	.112	.13
Water year 1940-41	70,364	2,000	10	193	.965	13.06

*Winter discharge measurement made on this day.
Note.- Backwater from weeds Oct. 1 to Nov. 1; discharge computed on basis of one discharge measurement, gage heights, and records for nearby stations. Stage-discharge relation affected by ice Dec. 3-9; Jan. 5 to Feb. 14; Feb. 17 to Mar. 4; Mar. 19.

Clark Creek near Carsonville, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°27'35", long. 76°45'10", a third of a mile downstream from Clark Creek Dam, 1 3/4 miles southeast of Carsonville, Dauphin County, and 15 miles upstream from mouth. Datum of gage is 552.48 feet above mean sea level, adjustment of 1907.

Drainage area.- 22.5 square miles.

Records available.- September 1937 to September 1941.

Extremes.- Maximum discharge during year (regulated), 152 second-feet Apr. 7 (gage height, 2.65 feet); minimum (regulated), 2.5 second-feet June 19, 20 (gage height, 0.90 foot); minimum daily (regulated), 2.7 second-feet June 20.
1937-41: Maximum discharge, 988 second-feet Nov. 13, 1937 (gage height, 2.91 feet, site and datum then in use), from rating curve extended above 400 second-feet; minimum daily (regulated), 0.2 second-foot Jan. 29 to Feb. 3, 1940.

Remarks.- Records good. Flow regulated by Clark Creek Reservoir (capacity, 5,250,000,000 gallons). Figures of daily discharge do not include water diverted from reservoir to city of Harrisburg.

Cooperation.- Records of diversion and reservoir contents furnished by city of Harrisburg.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	4.5	98	6.0	65	5.2	52	6.4	5.4	4.9	4.9	5.1
2	4.5	6.7	98	62	5.2	5.4	5.6	7.6	5.4	5.2	11	5.1
3	44	4.6	97	102	5.2	5.9	5.6	6.6	15	5.2	6.2	4.9
4	50	39	42	102	5.2	12	5.6	6.6	6.5	5.8	7.0	5.1
5	5.4	67	5.5	102	5.2	5.4	10	6.6	9.5	5.1	4.2	15
6	5.4	102	11	102	5.2	18	12	7.3	11	5.1	5.2	11
7	35	42	64	102	5.6	5.2	97	11	9.2	5.5	5.1	4.9
8	36	56	60	100	5.6	61	128	5.1	6.9	5.4	5.1	10
9	9.3	102	10	46	5.4	100	111	f5.4	2.7	5.1	4.9	21
10	4.4	102	4.5	5.1	5.2	9.8	104	f7.2	5.4	5.1	4.9	5.6
11	4.9	102	4.5	5.1	5.2	5.4	100	61	5.9	5.1	4.8	16
12	4.5	102	4.6	5.1	5.2	5.4	98	43	6.0	5.1	4.9	15
13	4.6	102	4.8	4.9	5.4	24	56	6.2	6.0	5.2	4.8	28
14	4.6	102	4.8	32	6.2	5.6	7.2	6.4	5.9	5.1	4.8	4.8
15	31	103	4.8	78	6.2	12	7.2	6.4	5.6	5.1	5.0	33
16	4.5	102	5.8	100	6.0	6.2	7.5	66	5.6	4.9	4.9	22
17	4.6	102	5.4	43	35	6.2	73	37	9.6	4.9	4.9	17
18	4.6	102	5.2	6.4	5.8	10	103	6.2	4.5	4.9	4.3	29
19	4.8	96	5.2	6.4	5.6	6.0	69	6.2	3.8	4.9	5.1	6.0
20	4.8	102	5.2	6.4	5.4	12	6.8	6.0	2.7	4.9	9.9	17
21	4.8	102	5.2	6.4	37	4.5	6.8	5.6	3.4	4.9	5.1	6.0
22	4.8	102	5.1	53	100	4.9	6.6	6.0	4.9	4.9	5.2	39
23	5.1	102	5.1	100	100	12	6.8	6.0	5.2	4.9	5.2	11
24	4.9	102	5.1	100	98	5.4	29	49	4.9	4.9	5.1	6.0
25	4.9	100	5.1	100	49	5.6	103	46	4.9	4.9	5.6	6.0
26	4.9	100	5.2	100	5.2	15	48	5.6	4.9	4.9	5.2	6.0
27	4.6	100	5.1	98	5.4	5.6	6.4	5.2	4.9	4.9	19	39
28	4.6	100	7.0	98	5.2	5.6	6.4	5.2	4.9	4.9	5.1	6.0
29	4.8	100	7.5	98		32	6.4	5.2	4.9	4.9	22	66
30	39	98	6.6	98		5.4	6.4	5.4	4.9	4.9	5.1	41
31	4.6		6.2	98		65		5.4		6.7	5.2	

Month	Observed				Diversion and change in contents / (mean second-feet)	Adjusted		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	397.9	50	4.4	12.8	-2.00	10.8	0.480	0.55
November	2,546.8	103	4.5	84.9	-43.1	41.8	1.86	2.08
December	603.5	98	4.5	19.5	+20.1	39.6	1.76	2.03
Calendar year 1940	7,238.3	155	.2	19.8	+19.0	38.8	1.72	23.41
January	1,965.8	102	4.9	63.4	-19.1	44.3	1.97	2.27
February	598.6	100	5.2	21.4	+4.84	26.2	1.16	1.21
March	481.7	100	4.5	15.5	+37.5	53.0	2.36	2.72
April	1,284.3	128	5.6	42.8	+19.5	62.3	2.77	3.09
May	458.8	66	5.1	14.8	+1.70	16.5	.733	.85
June	180.2	15	2.7	6.01	+5.04	11.0	.489	.55
July	158.2	6.7	4.9	5.10	+1.45	6.55	.291	.34
August	199.7	22	4.3	6.44	-4.11	2.33	.104	.12
September	501.5	66	4.8	16.7	-16.1	.60	.027	.03
Water year 1940-41	9,377.0	128	2.7	25.7	+.5	26.2	1.16	15.84

f Discharge based on partial gage-height record.
/ Diversion from and change in contents in Clark Creek Reservoir; no corrections made for evaporation and seepage losses.

Stony Creek near Dauphin, Pa.

Location.- Water-stage recorder, lat. 40°22'45", long. 76°54'31", at Reading Co. railroad bridge 1¼ miles northeast of Dauphin, Dauphin County. Datum of gage is 353.75 feet above mean sea level, adjustment of 1907.

Drainage area.- 35.0 square miles.

Records available.- September 1937 to September 1941.

Extremes.- Maximum discharge during year, 224 second-feet Apr. 5 (gage height, 3.10 feet); minimum, 1.8 second-feet Sept. 18, 19 (gage height, 0.97 foot); minimum daily, 2.6 second-feet Sept. 18.
1937-41: Maximum discharge, 835 second-feet Nov. 13, 1937 (gage height, 5.00 feet); minimum, that of Sept. 18, 19, 1941; minimum daily, 2.6 second-feet Oct. 19, 1939, Sept. 18, 1941.

Remarks.- Records good except those for periods of no gage-height record and those for periods of ice effect, all of which are poor. Some regulation at low flow by small reservoir upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	28	33	109	a40	30	91	37	14	a8.4	7.4	5.9
2	12	120	38	98	a34	31	98	35	14	9.0	7.2	5.7
3	14	107	35	94	32	32	98	33	14	14	7.0	5.6
4	15	63	33	97	31	38	96	32	28	26	6.6	5.4
5	14	40	32	87	31	47	158	31	67	28	6.5	6.6
6	12	35	29	74	30	41	205	30	60	21	6.3	8.3
7	11	30	28	67	37	*36	162	29	39	19	6.1	7.4
8	24	27	27	62	45	a36	139	29	25	26	6.1	8.4
9	24	23	28	59	44	a37	123	33	18	52	5.9	12
10	21	21	27	57	41	38	114	33	16	28	5.6	10
11	18	a20	27	53	38	41	104	30	13	17	5.7	17
12	15	a28	28	52	36	42	96	28	12	13	5.6	12
13	14	a33	*35	50	35	a43	89	26	14	11	5.7	7.6
14	13	a30	42	44	48	a44	84	24	15	10	5.7	6.8
15	13	a190	40	43	84	a60	78	23	21	10	8.0	6.1
16	13	a130	55	40	77	a100	73	28	17	9.3	10	5.9
17	12	a92	97	48	60	a86	72	31	14	9.0	9.6	5.5
18	13	a68	83	48	52	78	67	27	14	8.3	8.6	2.6
19	13	a54	62	49	47	74	63	23	12	8.6	7.6	4.9
20	13	a46	54	45	43	62	60	21	11	8.3	7.9	3.3
21	13	42	51	47	41	68	56	19	10	7.9	7.6	4.0
22	12	39	48	41	39	77	51	18	9.0	7.6	13	4.9
23	12	37	46	40	37	92	50	25	a8.9	7.4	12	6.1
24	12	38	42	43	37	109	56	33	a8.8	7.2	7.4	5.1
25	12	42	39	41	36	123	56	26	a8.7	6.8	7.6	4.9
26	12	39	42	42	35	130	50	21	a8.5	6.6	9.0	5.0
27	12	39	57	38	32	125	47	22	a8.0	6.6	10	6.2
28	12	38	122	a40	30	125	43	26	a8.0	6.8	8.6	5.4
29	12	33	174	*a38		121	40	16	a8.0	6.5	7.2	5.1
30	21	31	193	a37		106	39	15	a8.1	7.8	6.8	4.4
31	32		143	a35		92		14		8.3	6.3	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	457	32	11	14.7	0.420	0.49
November	1,563	190	20	52.1	1.49	1.66
December	1,790	193	27	57.7	1.65	1.90
Calendar year 1940	20,660.4	736	4.7	56.4	1.61	21.95
January	1,718	109	35	55.4	1.58	1.83
February	1,172	84	30	41.8	1.19	1.25
March	2,164	130	30	69.8	1.99	2.30
April	2,558	205	39	85.3	2.44	2.72
May	818	37	14	26.4	.754	.87
June	524.0	67	8.0	17.5	.500	.56
July	415.4	52	6.5	13.4	.383	.44
August	234.6	13	5.6	7.57	.216	.25
September	198.1	17	2.6	6.60	.189	.21
Water year 1940-41	13,612.1	205	2.6	37.3	1.07	14.48

Peak discharge.- Nov. 2 (10:30 a.m.) 170 sec.-ft.; Dec. 29 (5:30 p.m.) 208 sec.-ft.; Feb. 21 (12 m.) 132 sec.-ft.; Apr. 5 (9 p.m.) 224 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of two discharge measurements and records for nearby stations.
Note.- Stage-discharge relation affected by ice Feb. 5-12 and Feb. 17 to Mar. 2.

Conodoguinet Creek near Hogestown, Pa.

Location.- Water-stage recorder, lat. 40°15'10", long. 77°01'15", 1,000 feet upstream from highway bridge, three-eighths of a mile downstream from Hogestown Run, and 1 mile northeast of Hogestown, Cumberland County. Datum of gage is 350.25 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 470 square miles.

Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. September 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 12 years, 510 second-feet.

Extremes.- Maximum discharge during year, 3,150 second-feet Dec. 29 (gage height, 5.50 feet); minimum, 68 second-feet Sept. 28 (gage height, 0.93 foot); minimum daily, 74 second-feet Sept. 28.
1929-41: Maximum discharge, 13,100 second-feet Dec. 2, 1934 (gage height, 11.32 feet); minimum, 24 second-feet Dec. 16, 1930; minimum daily, 28 second-feet Dec. 23, 1930.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	222	308	1,240	*295	350	545	257	190	146	141	93
2	200	1,760	410	1,030	290	370	535	253	174	136	142	116
3	230	2,110	350	1,030	280	450	500	237	165	158	119	96
4	215	1,030	310	960	270	620	465	233	246	270	106	106
5	184	698	320	769	260	692	675	230	1,410	1,070	117	118
6	163	550	300	578	250	585	2,150	222	2,180	803	118	139
7	160	435	300	648	260	515	1,470	218	1,040	535	109	124
8	206	367	317	555	250	430	1,100	218	670	539	100	100
9	290	317	330	520	240	396	924	230	490	654	104	111
10	222	281	339	515	230	460	804	245	377	415	116	106
11	187	257	358	495	220	455	708	230	308	312	104	641
12	174	303	440	460	230	515	637	218	261	303	144	292
13	165	330	*510	435	250	620	585	200	273	273	127	149
14	154	402	*595	401	350	816	545	194	353	257	123	122
15	154	1,550	565	377	1,040	1,270	510	194	326	230	137	111
16	144	1,890	646	362	1,140	2,020	470	197	277	190	162	111
17	141	1,140	1,620	358	888	2,550	475	200	295	171	162	104
18	136	816	1,300	445	500	1,240	450	190	405	168	150	96
19	129	626	918	445	370	*850	415	174	410	160	153	93
20	141	525	758	383	350	924	396	174	308	149	148	84
21	134	465	720	350	350	930	362	165	233	136	129	91
22	144	420	615	344	360	924	330	157	207	141	131	82
23	134	377	535	336	350	894	321	160	187	134	125	93
24	134	362	475	435	400	900	339	157	200	129	127	88
25	131	362	425	455	500	995	358	160	178	129	108	81
26	130	339	480	391	660	912	330	154	178	129	134	90
27	133	344	1,390	358	520	804	308	146	160	122	136	88
28	122	349	1,840	320	420	747	290	139	152	109	154	74
29	126	339	3,040	300		698	269	139	146	124	136	79
30	157	299	2,600	280		632	261	154	141	124	122	79
31	220		1,670	290		585		174		135	109	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,144	290	122	166	0.353	0.41
November	19,265	2,110	222	642	1.37	1.52
December	24,784	3,040	300	799	1.70	1.96
Calendar year 1940	235,379	6,920	104	643	1.37	18.63
January	15,865	1,240	280	512	1.09	1.26
February	11,523	1,140	220	412	.877	.91
March	25,149	2,550	350	811	1.73	1.99
April	17,527	2,150	261	584	1.24	1.39
May	6,019	257	139	194	.413	.48
June	11,940	2,180	141	398	.847	.94
July	8,351	1,070	109	269	.572	.66
August	3,973	162	100	128	.272	.31
September	3,757	641	74	125	.266	.30
Water year 1940-41	153,297	3,040	74	420	.894	12.13

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-7, Jan. 28 to Feb. 14, Feb. 18 to Mar. 3.

Paxton Creek near Penbrook, Pa.

Location.- Water-stage recorder, lat. 40°18'30", long. 76°51'00", at bridge on State Highway 543, 2 miles north of Penbrook, Dauphin County, and 7 3/4 miles upstream from mouth.

Drainage area.- 11.2 square miles.

Records available.- March 1940 to September 1941.

Extremes.- Maximum discharge during year, 307 second-feet Nov. 2 (gage height, 2.98 feet); minimum, 0.07 second-foot Aug. 18 (gage height, 0.07 foot).
1940-41: Maximum discharge, 622 second-feet Mar. 30, Apr. 20, 1940 (gage height, 3.87 feet); minimum, that of Aug. 18, 1941.

Remarks.- Records fair except those for periods of no or doubtful gage-height record and those for period of ice effect, all of which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	3.5	20	30	6.4	5.7	9.7	3.7	1.5	1.1	0.3	0.1
2	12	94	16	30	5.6	6.2	10	3.2	1.6	1.6	.3	.1
3	6.3	24	13	38	5.5	7.0	8.1	2.9	1.4	2.7	.3	.1
4	2.4	18	12	27	5.4	9.0	7.5	2.9	8.1	5.2	.3	.3
5	3.0	16	10	19	5.2	9.6	63	2.8	9.9	2.4	.3	.9
6	4.0	13	9.2	17	5.2	8.4	34	2.6	3.4	1.5	.3	1.1
7	12	10	9.2	15	6.2	7.6	24	2.4	2.1	1.8	.3	.4
8	a17	8.9	10	13	8.6	7.6	19	2.4	1.9	4.4	.3	.2
9	a11	7.5	9.5	12	8.0	8.0	17	2.3	1.6	1.8	.3	.2
10	a8.0	6.8	8.6	10	6.6	7.6	15	2.5	1.6	1.5	.2	1.2
11	a7.0	6.6	8.6	9.4	6.5	7.8	13	2.0	1.4	1.2	.2	3.3
12	a6.0	9.5	8.1	9.0	6.2	7.8	11	1.8	1.7	1.0	.2	.5
13	a5.0	6.8	9.8	8.3	6.2	7.8	10	1.7	2.1	.9	.2	.4
14	5.0	39	7.0	7.2	11	8.3	9.7	1.6	2.5	.7	.2	.3
15	4.1	91	6.6	6.5	21	10	8.6	1.6	3.1	.6	.2	.3
16	3.8	36	36	6.4	19	13	8.1	2.2	2.3	.6	.2	.3
17	3.5	27	50	7.6	16	16	12	1.8	1.6	.6	.1	.2
18	5.7	21	19	9.0	14	13	8.3	1.5	1.6	.6	.1	.2
19	2.0	17	17	8.5	11	*12	8.1	1.4	1.4	.5	.6	.1
20	2.2	15	17	6.6	10	12	7.0	1.3	1.3	.5	1.2	.1
21	3.0	13	15	5.9	9.2	13	5.9	1.2	1.3	.5	.4	.2
22	2.6	11	13	5.5	8.6	14	5.4	3.1	1.2	.5	.3	.2
23	2.6	9.7	11	6.0	8.0	16	5.2	2.5	1.1	.4	.4	.2
24	2.5	14	9.2	7.4	7.4	21	7.2	1.4	1.1	.4	.3	.1
25	2.4	9.5	8.6	8.0	7.0	18	5.4	1.2	1.0	.4	.4	.1
26	2.3	8.3	16	7.4	7.2	15	4.8	1.1	1.0	.4	.6	.1
27	2.0	11	14	6.5	6.2	14	4.6	3.8	1.0	.4	1.5	.2
28	2.0	11	82	6.1	5.6	13	4.2	5.6	1.0	.4	.4	.2
29	1.9	9.2	88	*5.9		12	3.9	1.4	1.0	.4	.3	.2
30	11	8.9	59	5.7		11	3.7	1.3	1.0	.4	.3	.2
31	4.5		40	5.6		9.7		1.2		.4	.3	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	160.6	17	1.9	5.18	0.462	0.53
November	576.2	94	3.5	19.2	1.71	1.91
December	652.4	88	6.6	21.0	1.87	2.17
Calendar year						
January	359.5	38	5.5	11.6	1.04	1.19
February	242.8	21	5.2	8.67	.774	.81
March	341.1	21	5.7	11.0	.982	1.13
April	353.4	63	3.7	11.8	1.05	1.17
May	68.4	5.6	1.1	2.21	.197	.23
June	62.8	9.9	1.0	2.09	.187	.21
July	35.8	5.2	.4	1.15	.103	.12
August	11.3	1.5	.1	.36	.032	.04
September	12.0	3.3	.1	.40	.036	.04
Water year 1940-41	2,876.3	94	.1	7.88	.704	9.55

Peak discharge.- Nov. 2 (6:30 a.m.) 307 sec.-ft.; Dec. 28 (6 a.m.) 226 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Jan. 29 to Mar. 19. Discharge for periods of doubtful gage-height record, June 20 to July 2, July 10 to Aug. 15, computed on basis of one discharge measurement and records for nearby stations.

Swatara Creek at Harper Tavern, Pa.

Location.- Water-stage recorder, lat. 40°24'10", long. 76°34'35", at highway bridge at Harper Tavern, Lebanon County, 6 miles northwest of Annville and 8½ miles downstream from Little Swatara Creek. Datum of gage is 355.53 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 333 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. December 1918 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1919-41), 533 second-feet.

Extremes.- Maximum discharge during year, 3,440 second-feet July 8 (gage height, 5.50 feet); minimum, 16 second-feet Sept. 30 (gage height, -0.10 foot).
1918-41: Maximum discharge, 25,300 second-feet Aug. 24, 1933 (gage height, 17.53 feet); minimum, 8 second-feet Sept. 24, 25, 1932.
Maximum stage known, 25.6 feet June 1, 1889, from floodmark (discharge, 53,000 second-feet, from rating curve extended above 25,000 second-feet).

Remarks.- Records fair except those for periods of no gage-height record and those for periods of ice effect, all of which are poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	185	231	474	1,160	230	270	688	a220	a120	69	105	47
2	312	2,010	585	1,020	240	330	715	a210	a115	80	82	49
3	538	1,440	a520	1,020	220	445	671	a200	a110	443	59	44
4	308	962	a500	1,070	210	625	615	a200	a350	272	51	45
5	218	770	a480	814	200	525	848	a190	a520	418	51	51
6	175	666	a430	743	200	485	1,180	a185	497	175	45	67
7	197	560	a410	645	240	376	935	a185	227	192	42	65
8	660	500	a420	580	450	292	781	a180	143	1,860	40	47
9	560	430	*410	565	400	417	704	a200	111	754	38	42
10	a420	372	348	545	300	376	640	a180	91	405	36	48
11	a350	348	344	510	250	405	595	a170	82	292	35	61
12	a270	588	335	455	300	455	545	a160	80	249	36	47
13	a230	671	455	445	370	525	500	a155	87	204	40	40
14	a220	699	480	381	800	*671	470	a155	104	163	38	36
15	a200	2,480	420	396	2,140	1,160	440	a150	98	155	50	31
16	185	1,740	714	312	1,260	1,800	420	a230	104	108	90	31
17	169	1,300	*1,680	436	825	1,590	415	a210	91	101	72	31
18	163	1,020	*1,130	485	635	756	396	a140	135	111	61	31
19	155	825	935	440	500	721	348	a135	128	94	57	31
20	149	726	852	308	450	732	344	a130	84	84	67	30
21	149	660	787	270	400	935	284	a125	76	80	63	28
22	140	600	699	295	370	852	249	a120	69	71	63	26
23	132	545	625	350	350	852	249	a170	65	67	52	25
24	130	590	550	*446	330	962	316	a150	104	65	45	25
25	127	590	510	336	320	1,070	322	a115	95	63	67	24
26	124	470	505	280	325	1,040	a244	a110	69	59	181	22
27	116	515	530	210	305	1,020	a235	a190	59	55	296	20
28	116	495	1,070	230	280	990	a230	a140	57	49	102	19
29	114	435	1,610	220		935	a230	a115	55	62	61	19
30	302	405	1,880	200		814	a225	a110	57	73	51	16
31	484		1,450	210		726		a110		100	45	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,598	660	114	245	0.736	0.85
November	23,643	2,480	231	788	2.37	2.64
December	22,138	1,880	335	714	2.14	2.47
Calendar year 1940	253,933	9,170	66	694	2.08	28.37
January	15,377	1,160	200	496	1.49	1.72
February	12,900	2,140	200	461	1.38	1.44
March	23,152	1,800	270	747	2.24	2.59
April	14,834	1,180	225	494	1.48	1.66
May	5,040	230	110	163	.489	.56
June	3,983	520	55	133	.399	.44
July	6,973	1,860	49	225	.676	.78
August	2,111	296	35	68.1	.205	.24
September	1,098	67	16	36.6	.110	.12
Water year 1940-41	138,847	2,480	16	380	1.14	15.51

Peak discharge.- Nov. 15 (11 a.m.) 2,950 sec.-ft.; Feb. 15 (6 a.m.) 2,410 sec.-ft.; July 8 (10:30 a.m.) 3,440 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of two discharge measurements and records for nearby stations.
Note.- Stage-discharge relation affected by ice Jan. 21-23, Jan. 26 to Feb. 13, Feb. 19 to Mar. 2.

Manada Creek at Manada Gap, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°23'55", long. 76°42'40", at highway bridge at Manada Gap, Dauphin County, 3 miles northwest of Shellville and 9 miles upstream from mouth. Datum of gage is 516.07 feet above mean sea level, datum of 1929.

Drainage area.- 13.5 square miles.

Records available.- September 1937 to September 1941.

Extremes.- Maximum discharge during year, 119 second-feet Apr. 5; maximum gage height, 3.24 feet Mar. 18 (ice jam); minimum discharge, 0.7 second-foot Sept. 29.
1937-41: Maximum discharge, 388 second-feet Nov. 13, 1937 (gage height, 4.00 feet); minimum, that of Sept. 29, 1941.

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	5.2	12.8	53	12.9	11.5	35	11.5	6.1	3.6	2.5	2.4
2	8.1	61	14.2	46	11.0	12	35	11.0	6.1	4.0	2.1	2.0
3	7.0	34	13.8	41	11.0	13	31	10.6	5.7	6.2	1.9	2.0
4	5.3	22	12.8	38	11.0	17.7	28	10.6	11.4	8.4	1.8	2.6
5	5.1	17.1	12.8	31	10.8	18.2	77	10.2	17.2	5.3	1.9	3.7
6	4.9	13.8	11.5	26	10.6	15.9	83	9.7	9.7	5.2	2.1	3.2
7	6.4	11.5	11.0	24	12.8	14.8	68	9.7	7.8	5.1	1.7	2.1
8	11.2	10.2	11.5	22	16.5	15.4	49	9.4	6.5	5.6	1.6	1.8
9	7.8	9.1	10.6	20	16.2	15.9	42	10.6	5.9	4.1	1.6	1.7
10	7.1	8.4	*10.6	18.8	14.6	14.8	37	9.7	5.5	3.7	1.5	6.8
11	6.3	8.4	10.6	18.3	13.6	15.4	31	9.1	5.1	3.8	1.5	6.4
12	5.9	11.0	10.6	17.1	13.0	15.4	27	8.7	5.5	4.0	1.9	1.9
13	5.3	9.1	13.8	15.9	12.8	15.4	25	8.1	6.3	3.6	1.6	1.8
14	5.1	17.5	12.8	14.8	27	16.3	22	8.1	6.3	3.5	1.6	1.7
15	4.7	76	12.8	14.2	42	24	21	7.8	6.1	3.3	4.6	1.5
16	4.4	52	30	13.3	38	39	19.4	11.3	5.5	3.3	3.0	1.5
17	4.4	37	*40	15.4	35	*44	19.4	9.1	5.1	3.5	2.1	1.4
18	4.4	27	35	17.1	30	37	18.3	7.5	5.1	3.1	2.0	1.4
19	4.5	22	30	16.5	25	32	17.7	7.1	4.5	3.0	3.4	1.4
20	4.5	18.3	27	15.6	20	36	16.5	6.8	4.4	2.9	3.0	a1.4
21	4.4	15.9	24	14.8	17	41	15.4	6.5	4.2	2.7	1.6	a1.3
22	4.1	14.2	22	12.6	15	41	14.2	6.3	4.1	2.6	8.6	a1.2
23	4.1	12.8	18.3	14.0	13.5	46	13.8	8.0	4.1	2.6	3.0	a1.1
24	4.0	15.0	15.9	14.3	13	50	17.1	7.3	4.1	2.6	1.9	1.1
25	3.8	12.8	15.4	15.0	13.5	57	14.2	6.1	4.0	2.7	3.6	1.1
26	3.8	11.5	17.9	13.0	12.5	56	13.3	5.9	3.7	2.6	3.0	1.1
27	3.7	12.8	21	12.0	12	53	12.8	7.2	3.6	2.3	3.5	.9
28	3.6	11.5	61	12.8	11.5	52	12.4	8.3	3.6	2.1	3.2	.9
29	3.5	10.6	85	*12.0		49	12.0	5.9	3.6	2.2	3.0	.8
30	9.6	10.6	91	12.0		42	12.0	5.7	3.8	3.1	2.8	.9
31	6.4		69	11.0		37		5.7		3.0	2.5	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	168.5	11.2	3.5	5.44	0.403	0.46
November	598.3	76	5.2	19.9	1.47	1.65
December	784.7	91	10.6	25.3	1.87	2.16
Calendar year 1940	8,481.2	232	2.7	23.2	1.72	23.36
January	621.5	53	11.0	20.0	1.48	1.71
February	491.8	42	10.6	17.6	1.30	1.35
March	947.7	57	11.5	30.6	2.27	2.61
April	839.5	83	12.0	28.0	2.07	2.31
May	259.5	11.5	5.7	8.37	.620	.71
June	174.6	17.2	3.6	5.82	.431	.48
July	113.7	8.4	2.1	3.67	.272	.31
August	80.1	8.6	1.5	2.58	.191	.22
September	59.1	6.8	.8	1.97	.146	.16
Water year 1940-41	5,139.0	91	.8	14.1	1.04	14.13

Peak discharge.- Nov. 2 (8 p.m.) 104 sec.-ft.; Nov. 15 (9 a.m.) 86 sec.-ft.; Dec. 29 (9 a.m.) 104 sec.-ft.; Apr. 5 (5 p.m.) 119 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record, discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Feb. 20 to Mar. 3, Mar. 18.

West Conewago Creek near Manchester, Pa.

Location.- Water-stage recorder, lat. 40°04'55", long. 76°43'10", 500 feet upstream from Manchester-York Haven highway bridge and 1¼ miles north of Manchester, York County. Datum of gage is 263.04 feet above mean sea level (Pennsylvania Railroad bench mark).

Drainage area.- 510 square miles.

Records available.- October 1928 to September 1941.

Average discharge.- 12 years, 532 second-feet.

Extremes.- Maximum discharge during year, 10,400 second-feet Apr. 6 (gage height, 11.16 feet); minimum, 4.9 second-feet Sept. 27 (gage height, 1.31 feet); minimum daily, 5.4 second-feet Sept. 27.
1928-41: Maximum discharge, 47,600 second-feet Aug. 24, 1933 (gage height, 24.14 feet); minimum, 2 second-feet Aug. 7, 8, Oct. 20, 1930.

Remarks.- Records good except those for periods of ice effect and those for periods of no gage-height record, all of which are poor. Some regulation at low flow by grist-mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	215	389	a700	1,060	280	250	492	177	172	40	31	39
2	1,450	4,440	a640	954	280	270	664	169	123	47	29	31
3	2,570	2,590	a560	1,700	270	403	716	157	125	130	32	29
4	714	873	a520	1,240	*250	812	516	145	150	618	31	33
5	476	670	a520	864	250	733	2,680	140	1,120	757	29	42
6	383	572	a490	603	260	488	5,700	147	1,170	387	26	42
7	336	484	a480	616	343	411	1,820	138	459	213	31	35
8	939	422	a560	532	599	335	1,140	138	259	175	31	36
9	906	376	a490	544	542	344	888	136	188	143	23	34
10	500	333	426	520	375	490	785	147	153	107	14	23
11	383	311	*400	496	332	662	736	161	123	94	26	20
12	326	352	400	460	445	2,040	660	145	112	78	30	15
13	287	512	400	433	676	2,120	598	130	112	73	20	28
14	254	687	430	383	2,210	2,260	558	119	168	155	16	28
15	236	6,570	369	352	3,890	3,140	524	110	203	108	20	28
16	212	2,640	808	276	1,880	4,120	484	110	165	87	27	32
17	197	1,200	3,660	359	1,060	3,080	456	125	147	70	24	20
18	186	912	1,240	520	710	*944	430	147	136	62	22	18
19	182	720	834	590	494	714	400	121	184	61	74	17
20	175	621	730	480	402	710	379	117	149	58	154	18
21	f206	585	715	336	383	685	346	106	109	50	156	16
22	f240	540	650	328	378	758	314	90	92	35	102	9.4
23	190	488	580	505	320	725	290	84	82	38	74	19
24	a180	476	520	806	310	846	299	94	136	44	53	11
25	a170	549	456	512	310	1,210	330	99	90	44	65	12
26	a160	472	488	516	300	846	326	87	86	43	132	8.4
27	a155	1,240	1,250	336	280	725	287	69	67	34	106	5.4
28	a150	1,920	2,660	337	260	695	254	82	60	34	59	17
29	145	a1,000	3,920	310		645	244	73	51	30	68	12
30	189	a720	3,080	290		576	199	308	54	28	73	18
31	633		1,490	290		520		309		33	44	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	13,345	2,570	145	430	0.843	0.97
November	33,664	6,570	311	1,122	2.20	2.45
December	30,466	3,920	369	983	1.93	2.22
Calendar year 1940	278,193	12,600	42	760	1.49	20.29
January	17,548	1,700	276	566	1.11	1.28
February	18,089	3,890	250	646	1.27	1.32
March	32,557	4,120	250	1,050	2.06	2.37
April	23,515	5,700	199	784	1.54	1.71
May	4,180	309	69	135	.265	.30
June	6,245	1,170	51	208	.408	.46
July	3,876	757	28	125	.245	.28
August	1,622	156	14	52.3	.103	.12
September	696.2	42	5.4	23.2	.045	.05
Water year 1940-41	185,803.2	6,570	5.4	509	.998	13.53

Peak discharge.- Nov. 2 (9 p.m.) 7,970 sec.-ft.; Nov. 15 (4:30 p.m.) 8,150 sec.-ft.; Apr. 6 (3 a.m.) 10,400 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations nearby.
f Discharge based on partial gage-height record.
Note.- Stage-discharge relation affected by ice Jan. 29 to Feb. 6, Feb. 24 to Mar. 2.

Codorus Creek at Spring Grove, Pa.

Location.- Water-stage recorder, lat. 39°52'10", long. 76°51'55", at highway bridge at Spring Grove, York County, half a mile downstream from Bunch Creek. Datum of gage is 436.43 feet above mean sea level (unadjusted).

Drainage area.- 74.3 square miles.

Records available.- March 1932 to September 1941 in reports of U. S. Geological Survey. April 1929 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 11 years (1929-31, 1932-41), 77.0 second-feet.

Extremes.- Maximum discharge during year, 870 second-feet Nov. 2 (gage height, 5.13 feet); minimum, 0.7 second-foot Sept. 29 (gage height, 0.34 foot); minimum daily, 1.6 second-feet Sept. 28.
1929-41: Maximum discharge, 11,200 second-feet Aug. 23, 1933 (gage height, 11.84 feet), by computation of flow over dam upstream; minimum discharge recorded, 0.5 second-foot Aug. 13, 1939 (gage height, 0.19 foot); minimum daily discharge, that of Sept. 28, 1941.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Regulation at low flow by paper mill upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	45	117	133	69	60	78	46	36	20	16	12
2	297	440	100	158	70	69	148	45	35	20	16	13
3	118	129	92	160	68	90	94	42	32	24	14	12
4	84	90	80	144	66	114	81	42	205	85	16	11
5	70	76	83	111	64	74	399	40	145	44	17	a10
6	64	70	78	100	71	64	284	40	78	31	16	9.0
7	60	62	88	94	255	61	201	39	51	30	15	a8.2
8	77	57	a80	89	173	58	162	42	40	26	15	a6.5
9	63	54	a76	90	97	83	143	a41	34	24	14	a9.8
10	54	53	a70	90	83	70	126	a49	34	22	11	9.4
11	50	53	a68	88	111	195	114	a41	31	20	13	8.9
12	48	71	a64	81	145	248	104	a37	32	20	14	10
13	45	63	66	78	117	218	97	a35	a37	23	13	9.4
14	43	246	61	71	a350	251	93	a33	a47	20	13	6.4
15	41	508	60	68	a240	354	88	a33	a58	18	15	7.8
16	40	226	316	73	a140	496	82	a52	a37	17	9.5	10
17	40	164	239	82	a120	255	79	a43	33	17	9.6	9.9
18	39	130	152	103	a110	139	77	a41	45	18	13	10
19	38	108	126	96	a88	127	72	a32	33	16	35	10
20	43	100	120	71	a78	132	68	30	28	19	29	8.9
21	44	93	110	65	a80	126	61	29	26	18	13	8.4
22	39	a86	102	70	a76	110	59	28	24	18	15	9.9
23	39	a78	92	115	a74	104	58	35	30	16	12	10
24	36	a88	85	148	a68	114	66	37	30	17	6.4	9.4
25	36	a82	84	145	a68	109	59	26	25	18	17	9.4
26	36	a78	99	97	a66	94	56	25	22	17	38	6.4
27	35	a300	96	90	a64	91	a55	24	22	16	42	5.7
28	36	a170	270	82	a66	88	a52	22	21	16	14	1.6
29	34	a130	246	78		83	a49	102	21	16	12	5.0
30	94	a120	185	76		78	47	89	20	16	12	9.9
31	54		150	73		73		35		17	9.4	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,852	297	34	59.7	0.803	0.93
November	3,970	508	45	132	1.78	1.99
December	3,655	316	60	118	1.59	1.83
Calendar year 1940	37,488	2,210	11	102	1.37	18.76
January	3,019	160	65	97.4	1.31	1.51
February	3,077	350	64	110	1.48	1.54
March	4,228	496	58	136	1.83	2.12
April	3,152	399	47	105	1.41	1.58
May	1,255	102	22	40.5	.545	.63
June	1,312	205	20	43.7	.588	.66
July	699	85	16	22.5	.303	.35
August	504.9	42	6.4	16.3	.219	.25
September	267.9	13	1.6	8.93	.120	.13
Water year 1940-41	26,991.8	508	1.6	74.0	.996	13.52

Peak discharge.- Nov. 2 (8 a.m.) 870 sec.-ft.; Nov. 15 (2 a.m.) 782 sec.-ft.; Dec. 16 (7 p.m.) 782 sec.-ft.; Mar. 16 (8 p.m.) 855 sec.-ft.; Apr. 5 (4:30 p.m.) 810 sec.-ft.
a No gage-height record, discharge computed on basis of records for nearby stations.

Codorus Creek near York, Pa.

Location.- Water-stage recorder, lat. 39°56'45", long. 76°45'20", 0.9 mile upstream from Richland Avenue Bridge, 1.9 miles downstream from South Branch of Codorus Creek, and 2 miles southwest of York, York County. Datum of gage is 356.39 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 222 square miles.
Records available.- August 1940 to September 1941.
Extremes.- Maximum discharge during year, 1,950 second-feet Mar. 16 (gage height, 6.77 feet); minimum, 6.9 second-feet Sept. 8 (gage height, 1.78 feet); minimum daily, 9.4 second-feet Sept. 28.
1940-41: Maximum discharge, 7,060 second-feet Sept. 25, 1940 (gage height, 11.82 feet), from rating curve extended above 1,250 second-feet; minimum, that of Sept. 8, 1941; minimum daily, that of Sept. 28, 1941.
Maximum stage known, about 24.0 feet Aug. 23, 1933, from floodmark 500 downstream (discharge, about 32,000 second-feet).
Remarks.- Records good. Regulation at low flow by mills and pumping plant upstream. Figures of daily discharge do not include water diverted for municipal supply of York.
Cooperation.- Record of monthly diversion furnished by York Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	120	320	353	214	160	219	267	99	47	33	27
2	527	858	284	363	216	208	414	137	106	45	22	23
3	329	e 380	258	422	205	230	287	125	91	66	24	21
4	225	261	241	375	197	390	255	127	341	227	25	25
5	190	216	238	317	184	240	698	127	317	156	26	30
6	174	203	224	284	189	205	791	118	223	97	32	37
7	165	179	222	272	498	195	537	116	134	97	24	31
8	202	162	252	258	687	183	454	130	114	79	24	14
9	177	152	227	255	308	238	406	125	93	65	25	23
10	149	149	205	258	258	205	363	146	85	56	31	19
11	132	144	197	252	272	415	332	123	78	54	30	22
12	129	177	190	238	378	698	308	111	79	55	34	19
13	125	177	195	230	393	592	287	105	130	54	27	14
14	115	382	182	214	1,070	614	284	101	122	59	34	26
15	113	1,170	164	211	697	921	261	100	149	49	45	18
16	107	592	460	227	406	1,260	247	155	96	46	40	16
17	111	454	748	247	350	868	238	130	84	47	38	16
18	105	375	422	287	308	418	224	125	135	50	28	16
19	102	308	356	314	251	360	214	99	90	46	92	21
20	119	281	338	224	224	353	208	92	77	44	86	16
21	127	270	314	196	227	363	192	136	71	45	27	20
22	107	247	290	208	219	326	174	104	66	39	29	30
23	102	224	270	321	211	284	177	122	68	34	27	18
24	103	252	244	469	192	311	197	125	145	33	30	23
25	98	235	241	556	195	320	187	74	75	28	33	20
26	101	227	270	314	187	278	169	67	61	29	61	23
27	99	680	275	284	182	267	166	62	53	27	132	18
28	101	470	556	255	190	261	159	56	51	26	42	9.4
29	91	369	537	238		247	149	59	49	26	30	21
30	208	332	470	227		235	145	218	50	34	26	17
31	179		390	224		222		92		34	29	

Month	Observed				Diversion ∮ (mean second-feet)	Adjusted for diversion		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	4,758	527	91	153	+14.8	168	0.757	0.87
November	10,046	1,170	120	335	+14.7	350	1.58	1.76
December	9,580	748	164	309	+14.8	324	1.46	1.68
Calendar year								
January	8,893	556	196	287	+14.9	302	1.36	1.57
February	8,908	1,070	182	318	+14.9	333	1.50	1.56
March	11,867	1,260	160	383	+15.1	398	1.79	2.06
April	8,742	791	145	291	+15.9	307	1.38	1.54
May	3,674	267	56	119	+16.8	136	.613	.71
June	3,332	341	49	111	+16.8	128	.577	.64
July	1,794	227	26	57.9	+18.7	76.6	.345	.40
August	1,186	132	22	38.3	+18.3	56.6	.255	.29
September	633.4	37	9.4	21.1	+18.0	39.1	.176	.20
Water year 1940-41	73,413.4	1,260	9.4	201	+16.2	217	.977	13.28

Peak discharge.- Nov. 2 (1:30 p.m.) 1,630 sec.-ft.; Feb. 14 (8:30 p.m.) 1,810 sec.-ft.; Mar. 15 (11:30 p.m.) 1,720 sec.-ft.; Mar. 16 (11 p.m.) 1,950 sec.-ft.
∮ Diversion for municipal supply of York.

South Branch of Codorus Creek near York, Pa.

Location.- Water-stage recorder, lat. 39°55'10", long. 76°45'00", just downstream from dam of pumping station of York Water Co., half a mile upstream from mouth, and 3 miles southwest of York, York County. Datum of gage is 373.03 feet above mean sea level, adjustment of 1907.
Drainage area.- 117 square miles.
Records available.- October 1931 to September 1941 in reports of U. S. Geological Survey. May 1925 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 14 years (1927-41), 131 second-feet (adjusted for diversion).
Extremes.- Maximum discharge during year, 1,300 second-feet Mar. 16 (gage height, 5.37 feet); minimum, 0.01 second-foot Sept. 21 (gage height, 0.31 foot); minimum daily, 0.5 second-foot Sept. 19.
1925-41: Maximum discharge, 19,300 second-feet Aug. 23, 1933 (gage height, 17.97 feet, from floodmark in gage house), by contracted-opening method; minimum, that of Sept. 21, 1941; minimum daily, that of Sept. 19, 1941.
Remarks.- Records fair except those for periods of no gage-height record, which are poor. Regulation at low flow by pumping plant upstream. Figures of daily discharge do not include water diverted upstream for municipal supply of York.
Cooperation.- Record of monthly diversion furnished by York Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	58	156	162	114	94	118	70	55	19	a11	a12
2	203	425	140	168	116	120	230	69	59	17	a7.0	a8.0
3	128	160	126	199	109	132	a150	64	48	35	a7.5	a7.2
4	90	115	115	185	102	230	a140	68	160	128	a7.0	a11
5	78	99	122	156	100	130	a420	65	130	74	a7.0	a15
6	72	92	115	139	99	115	a500	60	96	50	a10	23
7	66	82	115	136	302	109	a280	58	62	48	a7.2	a13
8	86	74	128	132	357	109	232	70	54	39	a7.2	a6.0
9	73	72	116	132	162	138	208	67	44	29	a8.0	a9.0
10	62	70	105	132	130	109	187	79	39	25	a11	a7.5
11	56	68	102	130	139	254	171	69	36	22	a13	a9.0
12	56	85	100	122	200	381	162	58	37	25	a12	a6.0
13	56	a86	102	115	206	305	150	57	65	22	a11	2.9
14	47	a180	97	105	696	302	148	56	55	26	a15	5.4
15	46	a520	86	106	358	510	133	53	49	19	17	3.0
16	46	287	270	122	209	784	126	94	43	20	19	1.4
17	51	227	353	133	189	436	122	71	38	19	15	.6
18	44	182	208	157	166	215	114	68	73	22	a13	.8
19	45	156	182	164	136	186	111	53	42	20	38	.5
20	56	146	172	115	126	182	106	47	35	15	25	1.4
21	59	136	164	101	127	182	97	94	33	21	a11	6.9
22	52	126	152	105	128	163	88	57	31	15	a11	6.0
23	49	114	138	163	125	151	90	65	34	a13	a12	3.2
24	46	128	126	216	108	154	105	59	98	a11	a14	3.5
25	46	114	a125	322	106	158	96	29	39	a10	a20	3.0
26	46	a110	a140	172	106	139	87	25	29	a9.0	28	2.7
27	46	a320	a145	154	99	133	86	21	23	a8.0	56	1.7
28	47	a225	a240	136	104	132	81	19	24	a7.4	15	2.3
29	43	a180	a235	129		125	76	23	20	a7.4	a14	2.5
30	109	163	a210	122		122	74	56	21	a12	a13	3.3
31	81		171	119		114		43		12	a14	

Month	Observed				Diversion ∮ (mean second-feet)	Adjusted for diversions		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	2,046	203	43	66.0	14.8	80.8	0.691	0.80
November	4,800	520	58	160	14.7	175	1.50	1.67
December	4,756	353	86	153	14.8	168	1.44	1.66
Calendar year 1940	50,727	2,080	17	139	14.5	154	1.32	17.82
January	4,549	322	101	147	14.9	162	1.38	1.59
February	4,919	696	99	176	14.9	191	1.63	1.70
March	6,414	784	94	207	15.1	222	1.90	2.19
April	4,688	500	74	156	15.9	172	1.47	1.64
May	1,787	94	19	57.6	16.8	74.4	.636	.73
June	1,572	160	20	52.4	16.8	69.2	.591	.66
July	799.8	128	7.4	25.8	18.7	44.5	.380	.44
August	468.9	56	7.0	15.1	18.3	33.4	.285	.33
September	177.8	23	.5	5.93	18.0	23.9	.204	.23
Water year 1940-41	36,977.5	784	.5	101	16.2	117	1.00	13.64

Peak discharge.- Feb. 14 (4 p.m.) 1,230 sec.-ft.; Mar. 16 (9:30 p.m.) 1,300 sec.-ft.
a No gage-height record; discharge computed on basis of five discharge measurements and records for nearby stations.
∮ Diversion of municipal supply for York.

Conestoga Creek at Lancaster, Pa.

Location.- Water-stage recorder and concrete control, lat. 40°03'00", long. 76°16'40", at Pennsylvania Railroad bridge, 500 feet downstream from diversion dam of city waterworks and three-quarters of a mile east of Lancaster, Lancaster County. Datum of gage is 244.74 feet above mean sea level, adjustment of 1907.
Drainage area.- 322 square miles.
Records available.- September 1928 to September 1941.
Average discharge.- 11 years (1928-31, 1933-41), 353 second-feet (adjusted for diversion).
Extremes.- Maximum discharge during year, 3,200 second-feet Dec. 17 (gage height, 6.96 feet); minimum, 8.4 second-feet Sept. 9 (gage height, 2.36 feet); minimum daily, 20 second-feet Sept. 28.
1928-41: Maximum discharge, 22,800 second-feet Aug. 24, 1933 (gage height, 17.52 feet, from floodmark in recorder shelter), by slope-area method; probably no flow at times; minimum daily observed, 9 second-feet Oct. 14, 1931, Sept. 15, 23, 1932.
Remarks.- Records good. Regulation at low flow by waterworks. Figures of daily discharge do not include water diverted upstream for municipal supply of Lancaster.
Cooperation.- Record of diversion furnished by city of Lancaster.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	164	148	320	455	281	233	367	212	96	422	78	52
2	240	745	376	450	293	300	617	209	124	212	83	76
3	348	661	312	508	289	312	478	189	125	765	71	70
4	220	257	266	633	258	652	394	189	127	1,260	86	67
5	176	220	274	471	255	608	470	192	209	709	80	64
6	146	209	274	399	251	410	885	189	234	333	71	64
7	164	202	266	390	825	345	592	176	160	308	66	47
8	159	176	328	362	1,440	293	460	199	116	251	65	84
9	191	165	324	362	517	337	418	209	126	237	53	55
10	162	152	281	362	405	324	394	192	112	192	41	51
11	145	164	266	354	385	479	371	186	91	186	68	54
12	133	213	262	333	460	1,320	362	176	94	161	70	46
13	117	316	281	341	603	1,170	345	164	107	220	60	38
14	130	450	275	312	1,070	1,450	341	158	177	189	63	32
15	124	1,860	248	300	1,630	1,630	324	155	142	158	52	56
16	112	750	511	304	771	1,650	312	164	212	141	69	51
17	126	460	1,890	341	566	1,340	300	173	163	134	70	42
18	109	394	697	399	460	607	293	155	176	141	87	43
19	108	341	533	460	394	572	277	155	146	132	91	30
20	102	320	496	333	381	559	270	143	130	121	78	22
21	118	308	484	300	362	559	270	135	99	130	100	22
22	127	293	439	304	349	514	251	120	80	127	71	46
23	116	276	413	460	341	508	251	135	103	110	a70	39
24	118	305	371	496	320	520	281	139	245	104	a68	37
25	94	342	362	496	324	559	297	124	140	97	257	36
26	99	274	371	413	320	490	251	132	112	90	304	35
27	91	404	371	358	300	460	248	124	84	78	128	26
28	106	439	623	320	300	450	244	105	85	95	99	20
29	114	362	824	316		424	230	112	66	92	80	41
30	116	328	733	300		390	223	96	195	83	68	37
31	255		526	316		376		103		89	53	

Month	Observed				Diversion ∕ (mean second-feet)	Adjusted for diversion		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	4,530	348	91	146	10.7	157	0.488	0.56
November	11,534	1,860	148	384	10.5	394	1.22	1.36
December	13,997	1,890	248	452	10.2	462	1.43	1.65
Calendar year 1940	142,522	4,310	62	389	10.4	399	1.24	16.88
January	11,948	633	300	385	9.9	395	1.23	1.42
February	14,150	1,630	251	505	9.9	515	1.60	1.67
March	19,841	1,650	233	640	9.9	650	2.02	2.33
April	10,816	885	223	361	10.6	372	1.16	1.29
May	4,910	212	96	158	11.0	169	.525	.61
June	4,076	245	66	136	11.1	147	.457	.51
July	7,367	1,260	78	238	12.2	250	.776	.89
August	2,700	304	41	87.1	11.9	99.0	.307	.35
September	1,383	84	20	46.1	11.8	57.9	.180	.20
Water year 1940-41	107,252	1,890	20	294	10.8	305	.947	12.84

Peak discharge.- Nov. 15 (8 a.m.) 2,620 sec.-ft.; Dec. 17 (3 a.m.) 3,200 sec.-ft.; Feb. 15 (5:15 a.m.) 2,280 sec.-ft.; Mar. 16 (12:15 a.m.) 2,670 sec.-ft.
a No gage-height record; discharge computed on basis of records for stations nearby.
∕ Diversion of municipal supply for Lancaster.

POTOMAC RIVER BASIN

Evitts Creek near Bedford Valley, Pa.

Location.- Water-stage recorder and concrete control, lat. 39°47'23", long. 78°38'48", 2 miles upstream from Thomas W. Koon Dam, 3 miles south of Bedford Valley post office, Bedford County, and 7 miles upstream from Rock Gully Creek.

Drainage area.- 30.2 square miles.

Records available.- September 1932 to September 1941.

Extremes.- Maximum discharge during year, 797 second-feet June 4 (gage height, 3.32 feet); minimum, 1.9 second-feet Sept. 29, 30 (gage height, 1.03 feet).
1932-41: Maximum discharge, 5,240 second-feet Mar. 17, 1936 (gage height, 7.13 feet), by slope-area method; minimum, 1.2 second-feet July 27, 1934 (gage height, 0.96 foot).
Maximum stage known, about 8 feet, date unknown, from floodmark (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are fair.

Cooperation.- Records furnished by U. S. Geological Survey, College Park, Md.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	7.1	11	45	15	b14	33	14	19	12	6.8	2.9
2	5.0	38	14	42	15	b17	30	14	33	9.8	5.7	2.9
3	4.8	14	13	42	15	24	28	13	23	13	5.0	2.7
4	4.4	9.8	10	37	13	54	28	13	347	61	4.6	7.2
5	4.2	8.4	10	30	b12	33	231	13	522	33	4.4	11
6	4.0	7.4	9.4	b27	b15	26	142	12	204	18	4.4	8.4
7	4.0	6.8	9.0	b25	b13	23	89	12	105	17	4.0	4.4
8	4.2	6.5	13	b23	b13	b22	71	12	72	18	3.8	3.8
9	4.2	6.0	15	22	b13	b22	60	13	52	13	3.6	3.4
10	3.8	5.7	22	21	b13	24	52	12	42	11	3.6	3.0
11	3.6	6.0	28	20	b12	28	46	11	35	12	3.2	2.7
12	3.6	9.4	20	19	b13	34	42	11	43	13	6.8	2.6
13	3.4	8.7	30	18	20	30	38	11	54	11	4.6	2.4
14	3.4	8.4	28	16	47	40	36	10	36	9.4	3.8	2.4
15	3.4	24	23	16	46	55	34	10	35	8.4	4.2	2.4
16	3.2	15	44	16	28	71	32	14	34	8.0	5.2	2.4
17	3.2	11	49	16	b24	62	30	14	27	9.8	4.0	2.4
18	3.4	9.8	34	18	b21	43	28	12	27	8.4	3.6	2.3
19	3.6	8.7	28	16	b19	b39	26	10	22	9.4	5.7	2.2
20	4.0	8.7	28	b15	b18	36	25	9.0	18	7.4	6.0	2.2
21	4.4	8.4	26	14	b17	42	22	8.4	16	6.5	4.2	2.2
22	4.4	8.0	23	14	b16	47	21	7.7	15	6.0	3.6	2.2
23	4.2	8.0	21	22	b15	47	20	7.1	14	6.0	3.4	2.2
24	4.2	9.8	18	21	b15	58	22	7.1	16	6.0	3.0	2.2
25	4.0	10	17	17	b18	58	20	6.5	15	6.0	6.8	2.2
26	4.2	9.4	94	b15	b16	52	18	6.5	12	6.0	6.2	2.2
27	4.0	11	50	b14	b15	47	17	6.2	11	6.2	5.7	2.2
28	4.0	11	100	b14	b14	45	16	6.0	10	5.7	4.2	2.2
29	4.6	9.8	87	b14		40	15	5.7	11	9.7	3.4	2.0
30	10	9.4	67	b14		35	14	11	11	12	3.2	2.0
31	7.7		52	b14		34		9.4		8.7	3.2	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	134.1	10	3.2	4.33	0.143	0.17
November	314.2	38	5.7	10.5	.348	.39
December	993.4	100	9.0	32.0	1.06	1.22
Calendar year 1940	10,798.7	455	2.9	29.5	.977	13.27
January	657	45	14	21.2	.702	.81
February	511	47	12	18.2	.603	.63
March	1,202	71	14	38.8	1.28	1.48
April	1,286	231	14	42.9	1.42	1.58
May	321.6	14	5.7	10.4	.344	.40
June	1,881	522	10	62.7	2.08	2.32
July	381.4	61	5.7	12.3	.407	.47
August	139.9	6.8	3.0	4.51	.149	.17
September	95.3	11	2.0	3.18	.105	.12
Water year 1940-41	7,916.9	522	2.0	21.7	.719	9.76

Peak discharge.- Apr. 5 (3-4:30 p.m.) 359 sec.-ft.; June 4 (9 p.m.) 797 sec.-ft.
* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Licking Creek near Sylvan, Pa.

Location.- Chain gage, lat. 39°43'20", long. 78°03'35", at highway bridge 200 feet north of Pennsylvania-Maryland State line, 3 miles southwest of Sylvan, Franklin County, and 10 miles upstream from mouth. Datum of gage is 434.16 feet above mean sea level, adjustment of 1907.

Drainage area.- 158 square miles.

Records available.- June 1930 to September 1941.

Average discharge.- 11 years, 166 second-feet.

Extremes.- Maximum discharge during year, 2,010 second-feet Apr. 5 (gage height, 6.8 feet, from graph based on gage readings); minimum observed, 9.5 second-feet Sept. 28, 29 (gage height, 0.95 foot).
1930-41: Maximum discharge, 20,700 second-feet Mar. 18, 1936 (gage height, 17.4 feet, from floodmark), by contracted-opening method; minimum observed, 3.0 second-feet Aug. 8, 1930 (gage height, 0.64 foot).

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	48	90	390	78	74	154	64	55	57	49	19
2	30	344	*132	272	80	66	146	64	129	61	37	19
3	41	293	140	284	83	70	138	58	86	75	29	18
4	42	165	90	250	68	146	131	54	607	939	27	21
5	34	124	103	198	66	148	757	53	1,650	917	24	85
6	30	96	103	170	73	116	1,260	51	1,000	515	25	43
7	28	77	90	150	75	119	785	49	450	296	22	37
8	32	67	96	140	74	89	480	57	296	228	20	25
9	33	60	103	130	68	88	348	56	228	174	20	19
10	29	55	90	125	60	114	284	52	168	131	19	17
11	28	52	117	120	62	139	250	53	138	114	18	18
12	25	64	132	111	76	239	208	47	124	447	22	18
13	26	86	148	*99	100	208	188	41	155	322	24	14
14	24	96	183	78	198	250	167	37	145	208	29	14
15	23	728	165	75	228	450	148	37	121	152	22	13
16	22	496	252	72	170	405	139	56	188	118	36	13
17	21	281	705	82	150	585	138	54	127	102	49	13
18	20	193	362	86	120	250	124	59	386	89	28	12
19	21	132	322	76	120	250	124	45	581	75	29	12
20	23	124	250	66	110	228	111	36	272	66	38	12
21	23	110	208	60	95	239	100	31	198	60	35	11
22	24	103	176	66	88	261	93	29	145	51	26	11
23	24	90	154	80	86	239	88	27	127	45	42	11
24	25	90	134	110	*93	261	226	27	429	44	47	11
25	23	90	121	100	83	309	141	24	167	42	39	12
26	23	83	428	80	88	272	85	24	118	40	40	10
27	22	96	745	78	88	239	78	24	92	35	71	10
28	21	103	665	86	83	239	73	22	80	34	35	10
29	22	96	830	82		208	70	22	70	30	27	9.5
30	32	85	585	80		188	66	70	64	40	23	10
31	50		390	78		167		57		68	20	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	848	50	20	27.4	0.173	0.20
November	4,527	728	48	151	.956	1.07
December	8,109	830	90	262	1.66	1.91
Calendar year 1940	71,238	2,280	20	195	1.23	16.76
January	3,874	390	60	125	.791	.91
February	2,763	228	60	98.7	.625	.65
March	6,656	585	66	215	1.36	1.57
April	7,100	1,260	66	237	1.50	1.67
May	1,380	70	22	44.5	.282	.32
June	8,396	1,650	55	280	1.77	1.98
July	5,575	939	30	180	1.14	1.31
August	972	71	18	31.4	.199	.23
September	547.5	85	9.5	18.2	.115	.13
Water year 1940-41	50,747.5	1,650	9.5	139	.880	11.95

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 6-11, 15-31; Feb. 4-13, 16-23. Backwater from leaves Oct. 1 to Nov. 2; discharge computed on basis of one discharge measurement and gage heights.

OHIO RIVER BASIN

Allegheny River at Eldred, Pa.

Location.- Water-stage recorder, lat. 41°57'50", long. 78°23'10", at site of former highway bridge, 1,000 feet upstream from Knapp Creek and half a mile north of Eldred, McKean County. Datum of gage is 1,416.20 feet above mean sea level (unadjusted).

Drainage area.- 550 square miles.

Records available.- July 1939 to September 1941.

Extremes.- Maximum discharge during year, 6,130 second-feet Apr. 7 (gage height, 14.34 feet); minimum, 36 second-feet Sept. 28-30.
1939-41: Maximum discharge, 12,900 second-feet Apr. 5, 1940 (gage height, 18.48 feet); minimum, 30 second-feet Sept. 25, 26, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	142	580	2,760	430	190	1,520	518	151	201	245	70
2	124	375	805	2,110	390	185	2,020	480	173	205	193	70
3	112	700	660	2,060	350	231	2,250	442	151	177	146	66
4	101	398	560	1,660	330	1,270	2,500	405	312	149	116	59
5	93	304	530	1,260	310	1,550	3,250	380	1,040	175	100	67
6	87	326	560	960	325	1,260	4,440	368	755	146	93	138
7	85	360	1,000	770	418	800	6,020	355	480	127	82	154
8	90	315	2,200	640	368	780	5,530	392	380	256	73	94
9	92	273	1,800	580	315	980	4,370	392	303	261	68	72
10	86	246	1,480	500	306	980	3,390	392	255	158	63	67
11	80	233	*1,520	430	*315	740	2,500	342	221	122	63	70
12	76	320	1,480	390	306	*510	1,900	330	201	115	138	84
13	72	490	3,140	380	315	*418	1,610	285	318	164	241	69
14	68	385	3,840	300	355	350	1,370	271	1,460	162	121	58
15	80	372	3,910	*285	555	390	1,210	257	1,690	111	98	53
16	102	372	3,210	300	468	420	1,050	263	1,900	96	176	50
17	114	337	3,150	330	405	360	992	289	1,650	254	173	48
18	97	360	3,090	430	360	340	905	307	1,250	303	132	47
19	87	360	2,500	490	340	310	1,680	265	905	478	106	44
20	81	410	1,980	340	320	330	1,950	233	680	590	98	43
21	76	535	1,700	350	300	400	1,730	213	530	318	90	42
22	74	595	1,390	430	290	570	1,610	199	442	255	77	40
23	73	550	1,160	1,030	270	980	1,370	243	380	213	69	39
24	71	505	920	901	260	1,700	1,210	301	330	181	68	39
25	71	490	780	650	245	2,350	1,030	241	289	156	73	38
26	74	422	722	580	235	1,840	888	203	255	138	94	37
27	76	385	840	540	*230	1,660	785	183	229	122	212	37
28	75	350	2,060	500	210	1,660	695	177	207	110	188	36
29	74	335	3,040	470		1,570	620	167	197	130	112	36
30	85	325	3,330	430		1,340	560	154	217	336	87	36
31	137		3,270	460		1,260		139		368	77	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,753	140	68	88.8	0.161	0.19
November	11,570	700	142	386	.702	.78
December	57,207	3,910	530	1,845	3.35	3.86
Calendar year 1940	350,634	12,500	45	958	1.74	23.69
January	23,316	2,760	285	752	1.37	1.58
February	9,321	555	210	333	.605	.63
March	27,724	2,350	185	894	1.63	1.88
April	60,955	6,020	560	2,032	3.69	4.12
May	9,186	518	139	296	.538	.62
June	17,351	1,900	151	578	1.05	1.17
July	6,577	590	96	212	.385	.44
August	3,672	245	63	118	.215	.25
September	1,803	154	36	60.1	.109	.12
Water year 1940-41	231,435	6,020	36	634	1.15	15.64

Peak discharge.- Dec. 15 (12:30 a.m.) 4,130 sec.-ft.; Apr. 7 (2 p.m.) 6,130 sec.-ft.
* Winter discharge measurement made on this day.

Allegheny River near Kinzua, Pa.

Location.- Water-stage recorder, lat. 41°50'50", long. 78°59'30", at Pennsylvania Railroad bridge, half a mile upstream from Bent Run, 2 miles southwest of Kinzua, Warren County, and 2.3 miles downstream from Kinzua Creek. Datum of gage is 1,200.00 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 2,179 square miles.

Records available.- October 1935 to September 1941.

Extremes.- Maximum discharge during year, 24,100 second-feet Apr. 6; maximum gage height, 13.13 feet Mar. 4 (ice jam); minimum discharge, 158 second-feet Sept. 25 (gage height, 4.45 feet).
1935-41: Maximum discharge, 41,900 second-feet Apr. 5, 1940 (gage height, 16.46 feet); minimum, 135 second-feet Sept. 15, 1936.

Remarks.- Records excellent except those for periods of ice effect, which are poor.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	880	849	3,010	9,990	2,300	1,050	7,280	2,030	748	730	1,010	340
2	770	1,670	4,220	8,140	2,200	1,050	9,990	1,870	840	739	781	292
3	704	2,420	3,000	7,650	2,000	1,400	11,100	1,730	784	766	612	268
4	637	2,540	2,600	6,860	1,800	6,000	13,000	1,600	1,070	681	510	272
5	620	1,980	2,500	5,260	1,700	7,000	18,200	1,500	6,250	612	439	288
6	590	2,180	2,900	4,340	1,750	5,800	24,100	1,420	5,360	563	390	355
7	590	2,640	4,260	3,860	1,850	5,400	21,900	1,360	3,180	563	350	359
8	590	2,400	7,870	3,200	1,900	4,100	18,800	1,480	2,310	706	327	450
9	590	2,000	8,140	2,900	1,650	3,290	15,400	1,540	1,800	620	309	395
10	605	1,810	6,710	2,700	1,450	3,540	12,200	1,620	1,440	698	296	370
11	582	1,790	*6,260	2,500	1,500	3,290	9,990	1,520	1,220	620	284	385
12	544	2,310	6,540	2,300	1,550	*2,840	7,970	1,380	1,050	530	430	327
13	510	2,780	20,300	2,100	1,700	2,460	6,410	1,240	1,040	468	414	296
14	497	2,540	19,200	1,900	1,900	2,220	5,400	1,160	1,900	600	510	276
15	574	2,220	13,000	1,700	2,300	2,250	4,730	1,100	3,620	569	517	260
16	704	2,040	11,400	2,000	2,400	2,380	4,100	1,100	3,980	498	462	246
17	760	1,980	16,200	2,500	2,100	2,200	3,740	1,160	3,980	510	434	239
18	732	1,980	13,300	3,200	1,900	2,000	3,510	1,390	3,290	627	480	222
19	742	1,950	9,640	3,800	1,650	1,900	5,680	1,450	2,680	923	474	213
20	687	2,260	7,650	3,100	1,500	1,900	6,560	1,220	2,100	985	406	207
21	620	4,100	6,710	2,700	1,400	2,000	5,960	1,080	1,710	1,220	355	201
22	597	4,340	5,820	3,000	1,350	2,600	5,540	997	1,420	881	327	192
23	582	3,740	4,990	4,700	1,250	3,980	4,990	997	1,220	706	309	185
24	552	3,180	4,220	5,000	1,200	5,580	4,340	986	1,070	605	284	180
25	537	2,780	3,740	3,800	1,150	10,300	3,860	986	953	543	296	175
26	517	2,460	3,400	3,300	1,100	8,960	3,400	910	850	480	340	175
27	497	2,270	3,860	2,900	1,100	6,710	3,070	820	766	434	375	172
28	490	2,180	8,240	2,700	1,050	6,710	2,740	784	739	406	370	170
29	477	2,070	14,100	2,500		6,860	2,480	766	840	406	380	170
30	592	1,980	15,800	2,500		5,960	2,230	739	766	486	395	165
31	732		13,000	2,400		5,400		690		685	340	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	19,101	880	477	616	0.283	0.33
November	71,439	4,340	849	2,381	1.09	1.22
December	252,580	20,300	2,500	8,148	3.74	4.31
Calendar year 1940	1,519,222	39,800	269	4,151	1.91	25.92
January	115,500	9,990	1,700	3,726	1.71	1.97
February	46,700	2,400	1,050	1,668	.765	.80
March	127,130	10,300	1,050	4,101	1.88	2.17
April	248,670	24,100	2,230	8,289	3.80	4.24
May	38,625	2,030	690	1,246	.572	.66
June	58,976	6,250	739	1,966	.902	1.01
July	19,860	1,220	406	641	.294	.34
August	13,206	1,010	284	426	.196	.23
September	7,845	450	165	262	.120	.13
Water year 1940-41	1,019,632	24,100	165	2,794	1.28	17.41

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 8 to Mar. 6, Mar. 17-22.

Allegheny River at Franklin, Pa.

Location.- Water-stage recorder, lat. 41°23'25", long. 79°49'10", at Eighth Street Bridge in Franklin, Venango County, 1,000 feet downstream from French Creek. Datum of gage is 955.92 feet above mean sea level (unadjusted).
Drainage area.- 5,982 square miles.
Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. June 1915 to September 1941 in reports of Pennsylvania Department of Forests and Waters (prior to October 1918, gage heights only). Gage-height records collected at same site since 1905 are contained in reports of U. S. Weather Bureau.
Average discharge.- 23 years (1918-41), 9,746 second-feet (prior to 1941, unadjusted).
Extremes.- Maximum discharge during year (regulated), 67,200 second-feet Dec. 13 (gage height, 13.78 feet); minimum (regulated); 480 second-feet Sept. 28 (gage height, 1.72 feet).
1905-41: Maximum discharge, 191,000 second-feet Mar. 26, 1913, from rating curve extended above 110,000 second-feet; maximum gage height, 26.0 feet, present datum, Feb. 27, 1917 (ice jam); minimum discharge, 334 second-feet July 30, 1934 (gage height, 1.63 feet).
Maximum free-flow stage known, 25.0 feet, present datum, Mar. 17, 1865 (discharge, 196,000 second-feet, from rating curve extended above 110,000 second-feet).
Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Tionesta Creek Reservoir (see page 146) and Chautauqua Lake.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,410	1,860	7,810	27,800	7,000	3,500	18,200	4,730	2,380	1,900	1,400	912
2	2,120	3,160	13,500	23,500	6,800	3,300	25,300	4,470	2,340	1,740	1,580	854
3	1,920	5,150	14,500	24,700	6,300	4,000	28,500	4,080	2,380	1,720	1,630	774
4	1,820	5,500	10,600	24,100	5,700	10,200	28,500	3,960	2,910	1,700	1,420	752
5	1,700	4,980	8,000	19,400	5,000	29,100	33,800	3,710	3,700	1,670	1,250	877
6	1,630	4,660	8,800	14,500	4,900	*24,700	47,700	3,570	9,900	1,400	1,110	1,080
7	1,600	4,980	10,400	12,200	5,100	20,500	46,900	3,840	8,000	1,420	1,010	1,050
8	1,620	6,240	21,700	11,000	5,500	17,200	39,400	4,600	5,600	4,260	936	960
9	1,600	5,860	25,900	9,990	4,500	14,000	32,400	4,860	4,340	2,770	866	888
10	1,570	4,820	22,900	9,000	4,000	11,300	27,200	4,210	3,520	2,420	796	936
11	1,580	4,820	20,500	8,000	3,900	10,800	21,700	4,340	2,980	2,880	809	924
12	1,540	6,420	22,200	7,200	4,400	10,200	17,200	4,080	2,700	2,450	2,670	877
13	1,500	7,570	*53,700	7,200	5,100	8,960	14,600	3,840	2,730	1,520	2,540	888
14	1,420	7,380	60,000	6,000	6,610	8,160	12,200	3,570	3,000	1,290	1,630	842
15	1,520	6,050	44,600	5,300	9,170	8,360	10,900	3,450	4,480	1,190	1,640	774
16	1,580	4,980	35,900	4,800	9,780	8,160	9,800	3,300	7,250	1,290	1,650	741
17	1,680	4,820	46,900	5,400	9,380	8,160	8,800	3,280	7,420	1,970	1,340	719
18	1,720	4,820	43,900	9,580	7,570	6,610	8,000	3,300	6,550	1,380	1,120	686
19	1,680	5,320	34,500	16,000	5,680	4,790	10,600	3,470	5,600	1,990	1,010	654
20	1,650	6,420	27,800	14,500	3,950	6,870	16,600	3,610	4,470	2,030	984	633
21	1,650	9,620	22,300	11,300	4,220	8,720	15,600	3,350	3,690	1,930	960	602
22	1,580	12,600	18,800	10,400	4,660	9,170	14,200	3,140	3,160	1,950	924	591
23	1,520	11,700	15,500	19,300	4,980	11,700	12,700	3,180	2,790	1,820	1,540	570
24	1,500	10,800	13,500	23,500	5,150	17,700	11,100	3,450	2,490	1,500	808	560
25	1,470	8,360	11,500	19,900	*5,150	28,500	9,600	3,450	2,240	1,320	831	550
26	1,440	6,420	10,400	15,000	4,700	30,400	8,400	3,300	2,040	1,190	2,730	520
27	1,390	5,860	10,200	13,000	4,200	24,700	7,080	3,210	1,910	1,100	1,540	520
28	1,380	5,500	18,900	11,000	3,800	21,100	6,200	3,000	1,810	1,020	1,280	500
29	1,380	5,200	35,200	9,580		20,500	5,750	2,620	1,820	1,080	1,070	500
30	1,550	5,320	38,000	8,560		19,900	5,300	2,490	1,790	1,550	972	500
31	1,670		33,800	7,800		17,700		2,400		1,400	912	

Month	Observed: Second-foot-days	Observed: Maximum	Observed: Minimum	Observed: Mean	Change in contents/ (mean second-feet)	Adjusted for change in reservoir contents: Mean	Adjusted: Per square mile	Adjusted: Run-off in inches
October	50,390	2,410	1,380	1,625	-150	1,475	0.247	0.28
November	187,190	12,600	1,860	6,240	+218	6,458	1.08	1.20
December	762,210	60,000	7,810	24,590	+192	24,780	4.14	4.77
Calendar year 1940	4,285,947	96,000	910	11,710				
January	409,510	27,800	4,800	13,210	-136	13,070	2.18	2.51
February	157,200	9,780	3,800	5,614	-164	5,450	.911	.95
March	428,960	30,400	3,300	13,850	+193	14,030	2.35	2.71
April	554,230	47,700	5,300	18,470	-38.0	18,430	3.08	3.44
May	111,860	4,860	2,400	3,608	-21.4	3,587	.600	.69
June	115,990	9,900	1,790	3,866	+33.8	3,900	.652	.73
July	54,830	4,260	1,020	1,769	-88.1	1,681	.281	.32
August	41,858	3,670	796	1,350	-58.3	1,292	.216	.25
September	22,234	1,080	500	741	-67.0	674	.113	.13
Water year 1940-41	2,896,462	60,000	500	7,936	-0.7	7,935	1.33	17.98

* Winter discharge measurement made on this day.
/ Change in contents in Chautauqua Lake and Tionesta Creek Reservoir; no corrections made for evaporation and seepage losses. Figures for October, November, and December do not include 180,300,000 cubic feet of water stored in Tionesta Creek Reservoir prior to Jan. 1, 1941.
Note.- Stage-discharge relation affected by ice Dec. 5, 6, Jan. 10-17, Jan. 31 to Feb. 13, Feb. 26 to Mar. 3.

Allegheny River at Parkers Landing, Pa.

Location.- Water-stage recorder, lat. 41°06'05", long. 79°40'45", at highway bridge at Parkers Landing, Armstrong County, 1.1 miles downstream from Clarion River. Datum of gage is 845.14 feet above mean sea level, adjustment of 1907.
Drainage area.- 7,671 square miles.
Records available.- October 1932 to September 1941.
Extremes.- Maximum discharge during year (regulated), 76,800 second-feet Dec. 14; maximum gage height, 20.00 feet Mar. 5 (ice jam); minimum discharge (regulated), 631 second-feet Sept. 29, 30 (gage height, 0.87 foot).
1932-41: Maximum discharge, 149,000 second-feet Jan. 25, 1937 (gage height, 21.20 feet, from floodmark in well); maximum gage height, 27.85 feet Mar. 5, 1934 (ice jam); minimum discharge, 409 second-feet July 30, 1934 (gage height, 0.67 foot).
Maximum stage known, 29.0 feet Mar. 17, 1865 (discharge, 250,000 second-feet, from rating curve extended above 125,000 second-feet).
Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Chautauqua Lake, Tionesta Creek Reservoir (see page 146), and Piney Reservoir.
Cooperation.- Records of change in contents in Chautauqua Lake furnished by Department of Public Works, city of Jamestown. Records of Tionesta Creek Reservoir furnished by Corps of Engineers, U. S. Army. Records of change in contents in Piney Reservoir furnished by Clarion River Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,440	2,390	8,640	34,100	9,850	5,800	20,800	6,240	2,800	2,620	2,770	1,410
2	3,090	3,300	21,500	29,600	9,450	5,400	27,000	5,770	2,800	2,640	2,100	1,380
3	2,740	5,930	17,100	31,500	9,050	5,400	31,500	5,310	2,900	2,520	2,030	1,470
4	2,540	7,390	14,200	30,800	8,470	20,000	32,800	5,010	4,320	2,620	1,960	1,450
5	2,440	7,050	12,800	25,000	7,740	32,000	37,600	4,720	9,850	2,030	2,050	1,360
6	2,200	6,560	11,200	19,200	6,880	28,000	55,500	4,720	10,600	2,030	1,680	1,940
7	2,080	6,080	11,700	16,100	7,390	25,000	55,500	4,420	11,900	1,860	1,250	2,030
8	2,200	7,220	23,300	14,600	7,920	21,000	47,400	5,460	7,980	4,000	1,100	1,470
9	2,250	7,740	*30,200	13,100	6,600	18,000	39,000	6,560	6,400	5,460	1,000	1,710
10	2,130	6,560	28,200	12,300	5,400	16,000	32,800	5,920	5,310	3,860	925	1,900
11	2,050	6,080	24,400	11,800	5,200	14,500	27,000	5,460	4,280	3,300	868	1,780
12	2,080	7,560	23,800	11,000	6,000	14,500	22,000	5,310	4,140	3,720	3,750	1,500
13	1,980	8,660	52,200	9,250	7,800	13,500	17,100	5,160	4,280	2,690	5,100	1,300
14	1,840	9,250	70,800	8,660	9,400	12,500	15,100	4,420	12,800	1,750	3,010	1,150
15	1,930	8,470	53,200	7,740	11,000	12,000	13,600	4,570	10,700	1,770	3,470	1,060
16	2,220	7,530	43,200	7,220	12,500	12,500	12,300	4,720	12,800	1,590	6,420	1,150
17	2,220	6,080	49,500	7,560	11,000	11,000	11,200	4,280	13,200	2,220	3,120	1,210
18	2,200	5,920	51,000	10,300	10,000	8,500	9,850	3,860	11,000	3,300	2,290	982
19	2,250	6,720	41,800	15,600	8,400	7,600	11,000	4,140	9,050	3,860	2,320	868
20	2,200	7,220	33,400	17,600	7,100	8,000	18,600	4,420	8,280	4,420	1,860	814
21	2,050	9,450	28,200	15,000	6,000	10,000	18,600	4,280	5,620	3,040	1,610	782
22	2,250	13,600	22,600	12,000	6,200	12,000	17,100	3,860	4,570	2,740	1,540	750
23	2,100	14,100	18,600	21,000	5,900	13,600	15,600	5,010	4,280	2,640	1,760	836
24	1,930	12,800	16,600	29,000	6,200	22,600	14,100	4,720	3,720	2,390	1,610	937
25	2,010	10,300	14,100	24,400	7,200	32,800	11,800	3,720	3,140	2,140	1,200	868
26	2,500	9,050	13,200	18,600	7,300	*36,900	10,300	3,720	2,980	1,930	5,090	798
27	1,750	9,050	12,300	16,100	6,600	31,500	9,050	4,140	2,930	1,700	4,960	686
28	1,660	7,770	22,500	14,600	6,500	26,300	8,280	3,720	2,670	1,430	3,300	657
29	1,820	6,560	39,000	12,800		25,600	7,220	3,440	2,490	1,930	3,140	644
30	2,170	6,720	45,300	11,000		23,800	6,560	3,120	2,370	3,160	2,580	768
31	2,250		41,100	10,500		21,400		2,740		5,960	1,680	

Month	Observed				Change in contents ≠ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	68,570	3,440	1,660	2,212	-202	2,010	0.262	0.30
November	233,110	14,100	2,390	7,770	+244	8,014	1.04	1.16
December	895,640	70,800	8,640	28,890	+247	29,140	3.80	4.38
Calendar year 1940	5,216,490	109,000	1,210	14,240				
January	518,030	34,100	7,220	16,710	-138	16,570	2.16	2.49
February	219,050	12,500	5,200	7,823	-182	7,642	.996	1.04
March	552,700	36,900	5,400	17,830	+226	18,050	2.35	2.71
April	656,260	55,500	6,560	21,880	-22.3	21,850	2.85	3.18
May	142,940	6,560	2,740	4,611	-37.4	4,574	.596	.69
June	190,160	13,200	2,370	6,339	+53.9	6,393	.833	.93
July	87,320	5,960	1,430	2,817	-130	2,687	.350	.40
August	77,543	6,420	868	2,501	-17.2	2,484	.324	.37
September	35,660	2,030	644	1,189	-108	1,081	.141	.16
Water year 1940-41	3,676,983	70,800	644	10,070	-4.0	10,070	1.31	17.81

* Winter discharge measurement made on this day.
≠ Change in contents in Chautauqua Lake and in Tionesta Creek and Piney Reservoirs; no corrections made for evaporation and seepage losses. Figures for October, November, and December do not include 180,300,000 cubic feet of water stored in Tionesta Creek Reservoir prior to Jan. 1, 1941.
Note.- Stage-discharge relation affected by ice Jan. 21-24, Feb. 9 to Mar. 22.

Allegheny River near Rimer, Pa.

Location.- Water-stage recorder, lat. 40°57'30", long. 79°32'50", 800 feet upstream from dam 9, 1.7 miles downstream from Redbank Creek, 2.0 miles upstream from Rimer, Armstrong County, and 6.8 miles upstream from Mahoning Creek. Datum of gage is 810.75 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 8,389 square miles.
Records available.- February 1939 to September 1941.
Extremes.- Maximum discharge during year (regulated), 79,700 second-feet Dec. 14 (gage height, 18.44 feet); minimum daily (regulated), 814 second-feet Sept. 28.
1939-41: Maximum discharge, 116,000 second-feet Apr. 4, 1940 (gage height, 20.30 feet); minimum not determined (probably occurred Sept. 28, 1941, during period of excessive use of lock); minimum daily, 800 second-feet Sept. 25, 28, 1939.
Remarks.- Records good except those for periods of ice effect and those for period of abnormal manipulation at lock, all of which are fair. Flow regulated by Chautauqua Lake, Tionesta Creek Reservoir (see page 146), and Piney Reservoir.
Cooperation.- Results of one discharge measurement and records for Tionesta Creek Reservoir furnished by Corps of Engineers, U. S. Army. Records of change in contents in Chautauqua Lake furnished by Department of Public Works, city of Jamestown. Records of change in contents in Piney Reservoir furnished by Clarion River Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,700	2,430	8,770	37,200	10,700	6,270	21,800	6,330	3,000	2,540	4,540	2,020
2	3,200	3,240	14,200	31,400	10,300	5,550	27,000	5,730	2,770	2,640	3,100	1,790
3	2,900	5,260	18,000	34,600	9,580	5,730	33,300	5,550	3,140	2,500	2,460	1,870
4	2,700	7,630	14,400	33,300	9,120	12,100	34,600	5,130	4,700	2,640	2,320	1,900
5	2,500	7,090	11,400	27,600	7,770	23,700	40,000	4,450	15,300	2,020	2,200	1,710
6	2,300	6,460	12,600	21,800	6,580	32,000	60,400	4,780	12,600	2,020	2,070	2,320
7	2,100	6,090	13,400	17,500	7,160	29,400	62,100	4,720	14,000	1,870	1,530	2,770
8	2,200	6,700	26,300	15,600	8,400	25,200	52,100	5,070	9,980	2,630	1,370	2,070
9	2,200	7,770	31,400	14,400	7,280	21,800	42,800	6,700	7,020	5,970	1,210	1,870
10	2,100	6,520	30,000	13,300	5,610	17,000	34,600	6,460	5,850	4,130	1,130	2,240
11	2,000	6,330	26,400	12,600	5,610	15,400	30,000	5,850	4,840	3,330	1,070	2,020
12	2,000	7,020	25,200	11,500	6,210	15,100	24,600	5,070	4,130	3,530	2,350	1,790
13	1,900	8,540	49,000	9,740	6,830	13,800	19,100	5,310	4,890	2,950	6,200	1,570
14	1,900	9,120	76,100	8,750	8,330	12,800	16,000	4,560	12,800	1,870	3,480	1,340
15	1,800	8,470	58,700	7,700	11,000	12,300	15,200	4,240	12,400	1,830	5,540	1,300
16	2,200	8,040	45,800	7,220	13,000	13,500	13,500	4,720	13,800	1,640	11,700	1,270
17	2,200	6,330	*52,100	7,280	11,900	11,600	11,700	4,500	14,500	1,940	5,600	1,340
18	2,200	5,850	53,700	10,200	10,800	10,100	10,400	4,080	11,900	3,360	3,430	1,240
19	2,200	6,460	44,300	15,600	8,330	7,840	9,820	3,920	9,820	5,990	2,950	1,070
20	2,300	6,830	35,900	17,000	7,090	7,630	18,600	4,400	8,610	5,970	2,680	990
21	2,100	8,610	30,000	14,300	6,030	10,100	19,600	4,340	6,360	3,980	2,110	946
22	2,200	12,600	24,000	10,900	6,330	14,800	18,000	3,920	5,010	3,240	1,900	946
23	2,200	14,300	20,200	16,900	6,090	19,100	15,600	4,450	4,080	2,950	1,940	990
24	2,000	12,900	17,500	b34,000	6,330	27,000	15,200	5,310	3,980	2,640	2,020	1,050
25	1,900	10,500	15,100	b28,000	7,420	38,400	12,600	3,920	3,430	2,240	1,600	990
26	2,500	9,200	13,700	b20,000	7,490	*40,000	10,400	3,620	3,000	2,070	7,040	990
27	1,900	9,120	13,100	b17,000	6,830	34,600	9,420	4,080	2,910	1,900	8,380	902
28	1,800	8,540	22,600	b15,000	6,830	28,800	8,050	3,870	2,820	1,500	5,250	814
29	1,800	6,830	40,000	b13,500		28,200	7,350	3,480	2,500	1,900	4,290	836
30	2,150	6,640	48,900	b12,000		26,400	6,640	3,430	2,320	3,600	3,720	880
31	2,300		44,300	b11,000		23,500		2,770		10,400	2,410	

Month	Observed				Change in contents ≠ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	69,450	3,700	1,800	2,240	-202	2,038	.243	0.28
November	231,420	14,300	2,430	7,714	+244	7,958	.949	1.06
December	937,070	76,100	8,770	30,230	+247	30,480	3.63	4.19
Calendar year 1940	5,571,950	110,000	1,270	15,220				
January	546,890	37,200	7,220	17,640	-138	17,500	2.09	2.41
February	224,950	13,000	5,610	8,034	-182	7,852	.936	.97
March	589,720	40,000	5,550	19,020	+226	19,250	2.29	2.64
April	700,480	62,100	6,640	23,350	-22.3	23,330	2.78	3.10
May	144,760	6,700	2,770	4,670	-37.4	4,633	.552	.64
June	212,460	15,300	2,320	7,082	+53.9	7,136	.851	.95
July	97,790	10,400	1,500	3,155	-130	3,025	.361	.42
August	107,590	11,700	1,070	3,471	-17.2	3,454	.412	.47
September	43,834	2,770	814	1,461	-108	1,353	.161	.18
Water year 1940-41	3,906,414	76,100	814	10,700	-4.0	10,700	1.28	17.31

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
≠ Change in contents in Chautauqua Lake and in Tionesta Creek and Piney Reservoirs; no corrections made for evaporation and seepage losses. Figures for October, November, and December do not include 180,300,000 cubic feet of water stored in Tionesta Creek Reservoir prior to Jan. 1, 1941.
Note.- Abnormal manipulation at lock Oct. 1 to Nov. 1; discharge computed on basis of gage heights and records for stations at Parkers Landing and Kittanning.

Allegheny River at Kittanning, Pa.

Location.- Water-stage recorder, lat. 40°49'15", long. 79°31'55", 600 feet upstream from dam 7 at Kittanning, Armstrong County, 5½ miles upstream from Crooked Creek, and 10 miles downstream from Mahoning Creek. Datum of gage is 771.32 feet above mean sea level, adjustment of 1912.
Drainage area.- 8,973 square miles.
Records available.- August 1904 to September 1913, October 1918 to September 1921, October 1934 to September 1941 in reports of U. S. Geological Survey. August 1904 to September 1928, October 1934 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 29 years (1905-21, 1922-28, 1934-41), 15,890 second-feet.
Extremes.- Maximum discharge during year (regulated), 80,200 second-feet Dec. 14 (gage height, 18.64 feet); minimum (regulated), 980 second-feet Sept. 28-30 (gage height, 11.20 feet).
1904-28, 1934-41: Maximum discharge, 296,000 second-feet Mar. 26, 1913 (gage height, 30.7 feet, from floodmark, site and datum then in use; minimum observed, 570 second-feet Sept. 15-17, 1913.
Remarks.- Records good except those below 5,000 second-feet, which are fair. Flow regulated by Chautauqua Lake, Tionesta Creek Reservoir (see page 146), Piney Reservoir, and Mahoning Creek Reservoir (see page 159).
Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army. Records of change in contents in lake and reservoirs furnished by city of Jamestown, Clarion River Power Co., and Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	3,650	2,560	9,050	38,700	10,800	6,620	23,000	6,800	3,200	2,830	5,430	2,340
2	3,200	3,650	14,400	32,700	10,400	6,060	27,400	6,000	3,080	2,830	3,510	2,090
3	2,870	5,680	18,400	36,300	9,700	5,950	33,900	5,840	3,290	2,750	2,680	2,090
4	2,640	8,090	14,700	35,100	9,070	13,400	35,100	5,400	4,820	2,910	2,460	2,750
5	2,520	7,460	12,000	29,100	8,160	24,700	39,900	4,680	16,300	2,380	2,380	2,640
6	2,340	7,040	13,700	23,000	6,800	31,500	60,100	5,020	14,100	2,160	2,300	2,600
7	2,230	6,680	11,200	18,400	7,220	29,100	63,100	4,850	15,700	2,160	1,830	3,790
8	2,230	7,100	24,300	15,900	8,420	24,700	52,900	5,120	11,800	2,360	1,590	2,450
9	2,270	8,160	32,700	14,500	7,520	21,400	43,700	6,560	7,700	5,970	1,470	2,160
10	2,200	6,980	32,700	13,600	7,040	17,400	36,300	6,680	6,980	4,640	1,330	2,680
11	2,160	6,680	27,400	12,800	6,920	15,000	31,500	6,000	5,400	3,560	1,220	2,480
12	2,090	7,160	26,400	12,000	6,440	15,400	25,200	5,290	4,460	3,650	1,740	2,130
13	2,060	8,740	45,200	11,200	6,980	14,000	20,400	5,510	5,240	3,250	6,200	1,900
14	2,000	9,560	76,600	10,000	8,680	13,200	16,400	4,850	12,000	2,270	3,860	1,770
15	1,930	8,940	58,600	8,680	11,200	12,800	15,400	4,410	13,900	2,090	6,490	1,620
16	2,160	8,680	46,300	7,700	14,000	13,600	13,600	5,020	13,600	1,930	16,800	1,650
17	2,200	6,800	51,500	8,020	12,800	12,400	12,400	4,800	15,000	2,270	9,480	1,650
18	2,200	6,340	54,300	10,800	12,000	11,200	11,200	4,360	12,400	3,340	6,290	1,560
19	2,230	6,800	45,000	15,400	9,280	8,480	10,400	4,100	10,800	6,760	3,940	1,390
20	2,230	7,220	36,300	16,900	8,160	8,280	17,400	4,630	9,210	6,620	3,560	1,250
21	2,200	8,680	31,500	14,500	6,860	10,400	18,900	4,580	7,280	4,720	2,600	1,220
22	2,160	12,000	25,200	12,000	6,800	15,400	17,900	4,100	5,510	3,560	2,200	1,170
23	2,200	14,500	20,900	15,600	6,680	20,400	16,400	4,250	4,410	3,160	2,230	1,200
24	2,160	12,800	18,400	31,800	6,680	28,000	15,000	5,620	4,360	2,910	2,270	1,310
25	2,030	11,200	15,400	27,400	7,700	39,900	12,800	4,150	3,740	2,520	1,960	1,280
26	2,480	9,700	14,000	22,500	7,900	42,400	11,200	3,650	3,290	2,300	7,150	1,250
27	2,060	9,700	13,200	17,900	7,280	37,500	10,000	4,150	3,160	2,090	11,100	1,140
28	1,830	9,630	22,400	15,900	7,280	30,300	8,350	4,040	3,080	1,800	6,060	1,060
29	1,830	7,580	41,100	14,500		29,100	7,960	3,610	2,750	2,000	6,330	1,010
30	2,200	7,280	48,900	12,400		27,400	7,040	3,560	2,640	2,970	4,040	1,030
31	2,270		46,300	11,200		24,200		3,040		10,800	2,790	

Month	Observed				Change in contents ½ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	70,830	3,650	1,830	2,285	-202	2,083	0.232	0.27
November	243,390	14,500	2,560	8,113	+244	8,357	.931	1.04
December	948,050	76,600	9,050	30,580	+247	30,830	3.44	3.97
Calendar year 1940	5,821,930	116,000	1,500	15,910				
January	566,500	38,700	7,700	18,270	-138	18,130	2.02	2.33
February	238,770	14,000	6,440	8,528	-182	8,346	.930	.97
March	610,190	42,400	5,950	19,680	+226	19,910	2.22	2.56
April	714,850	63,100	7,040	23,830	-22.3	23,810	2.65	2.96
May	150,670	6,800	3,040	4,860	-37.4	4,823	.538	.62
June	229,200	16,300	2,640	7,640	+53.9	7,694	.857	.96
July	105,560	10,800	1,800	3,405	-130	3,275	.365	.42
August	133,310	16,800	1,220	4,300	+0.3	4,300	.479	.55
September	54,660	3,790	1,010	1,822	-113	1,709	.190	.21
Water year 1940-41	4,065,980	76,600	1,010	11,140	+2.2	11,140	1.24	16.86

½ Change in contents in Chautauqua Lake and in Tionesta Creek, Piney, and Mahoning Creek Reservoirs. Figures do not include 180,300,000 cubic feet stored prior to Jan. 1 in Tionesta Creek Reservoir and 166,900,000 cubic feet stored prior to July 1 in Mahoning Creek Reservoir; no corrections made for evaporation and seepage losses.

Allegheny River at Natrona, Pa.

Location.- Water-stage recorder, lat. 40°36'55", long. 79°43'10", 550 feet upstream from dam 4 at Natrona, Allegheny County, 6 miles downstream from Kiskiminetas River, and 24.2 miles upstream from confluence with Monongahela River at Pittsburgh. Datum of gage is 736.74 feet above mean sea level, adjustment of 1912 (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 11,410 square miles.
Records available.- October 1938 to September 1941.
Extremes.- Maximum discharge during year (regulated), 89,000 second-feet Dec. 14 (gage height, 16.67 feet); minimum daily (regulated), 1,120 second-feet Sept. 29.
1938-41: Maximum discharge, 187,000 second-feet Mar. 31, 1940 (gage height, 23.6 feet, observed at peak); minimum daily (regulated), that of Sept. 29, 1941.
Maximum stage known, 32.06 feet Mar. 18, 1936 (discharge, 385,000 second-feet, determined by Corps of Engineers, U. S. Army).
Remarks.- Records good except those below 5,000 second-feet, which are fair. Flow regulated by Chautauqua Lake, Tionesta Creek Reservoir (see page 146), Mahoning Creek Reservoir (see page 159), Crooked Creek Reservoir (see page 163), and 10 smaller reservoirs (combined capacity, excluding that of Chautauqua Lake, 374,240 acre-feet).
Cooperation.- Results of eight discharge measurements furnished by Corps of Engineers, U. S. Army. Records of change in Lake and reservoir contents furnished by city of Jamestown, Corps of Engineers, U. S. Army, Clarion River Power Co., Bethlehem Steel Co., Johnstown Water Co., and Latrobe Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,200	3,530	12,500	47,500	14,100	8,830	27,000	8,170	5,430	3,620	9,110	3,760
2	3,670	5,540	18,200	40,700	13,200	8,100	29,800	7,260	8,830	3,720	5,200	3,260
3	3,300	7,940	22,200	46,100	12,600	7,820	38,200	6,920	8,240	3,620	3,720	3,000
4	3,040	10,200	18,600	46,100	11,800	18,800	39,400	6,460	10,700	5,420	3,260	3,620
5	2,840	9,280	15,000	38,200	10,300	33,300	52,000	5,720	50,500	6,080	3,000	3,810
6	2,710	8,830	16,300	29,800	8,900	36,900	84,200	5,840	44,800	4,720	2,920	4,500
7	2,520	8,390	14,100	23,200	9,580	35,700	80,800	5,660	28,700	3,950	2,480	5,840
8	2,480	8,460	21,000	19,600	10,900	29,800	67,300	5,900	21,100	4,150	2,070	4,560
9	2,550	9,580	36,900	18,600	9,880	25,900	53,300	7,460	14,500	7,000	1,960	3,350
10	2,550	8,390	36,900	16,800	8,540	21,100	43,400	8,170	11,600	6,590	1,790	3,950
11	2,440	7,890	32,200	16,300	7,260	19,100	35,700	7,390	9,050	5,040	1,660	4,770
12	2,400	8,030	31,000	15,000	8,240	20,600	30,400	6,520	7,320	6,750	1,820	3,950
13	2,400	9,880	44,500	13,200	9,650	18,600	24,800	6,460	7,960	4,770	6,140	3,260
14	2,250	11,000	84,200	11,600	12,600	18,200	20,600	5,960	15,000	3,670	5,310	2,840
15	2,140	10,700	68,900	10,600	16,800	18,200	18,600	5,320	19,100	3,260	6,910	2,590
16	2,000	10,300	53,300	9,650	20,600	20,100	17,200	5,960	17,700	2,960	22,900	2,440
17	2,440	8,610	57,800	9,800	18,600	20,100	15,400	5,960	20,600	3,040	14,800	2,400
18	2,550	7,740	62,500	12,800	17,200	17,200	14,100	6,780	20,100	3,680	8,990	2,360
19	2,480	8,030	51,800	17,700	12,500	13,200	12,800	5,680	19,600	7,680	5,840	2,070
20	2,550	8,240	42,000	20,600	10,800	13,200	18,200	6,140	15,000	7,960	8,290	1,820
21	2,520	9,720	35,700	17,200	9,350	15,000	21,100	5,960	11,800	6,080	6,200	1,720
22	2,440	12,800	29,800	14,100	8,980	20,600	20,100	5,430	8,680	4,450	4,350	1,660
23	2,520	16,300	24,800	17,500	9,280	27,600	18,200	5,320	7,120	3,860	3,720	1,630
24	2,520	15,000	21,600	35,500	8,980	34,500	17,200	7,050	6,650	3,620	3,480	1,720
25	2,440	13,200	18,200	33,300	9,880	49,000	15,400	5,660	5,600	3,220	3,220	1,660
26	2,550	12,200	17,200	27,600	10,200	51,800	13,200	4,930	4,820	2,920	7,080	1,660
27	2,630	14,500	16,800	22,700	9,800	44,700	12,200	5,040	4,500	2,630	17,700	1,560
28	2,210	14,500	25,900	20,600	9,650	36,900	10,200	5,040	4,300	2,440	10,900	1,350
29	2,180	11,800	51,800	18,600		34,500	9,800	4,980	3,860	2,290	9,350	1,120
30	2,550	11,000	60,900	15,800		32,700	8,540	5,260	3,720	2,920	6,140	1,260
31	3,040		57,800	14,500		29,300		5,600		12,200	4,560	

Month	Observed				Change in contents ½ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	81,110	4,200	2,000	2,616	-291	2,325	0.204	0.23
November	301,580	16,300	3,530	10,050	+268	10,320	.904	1.01
December	1,100,400	84,200	12,500	35,500	+477	35,980	3.15	3.64
Calendar year 1940	7,349,190	168,000	1,690	20,080				
January	701,250	47,500	9,650	22,620	-111	22,510	1.97	2.27
February	320,170	20,600	7,260	11,430	-193	11,240	.985	1.03
March	781,350	51,800	7,820	25,200	+276	25,480	2.23	2.57
April	869,140	84,200	8,540	28,970	-10.0	28,960	2.54	2.83
May	190,000	8,170	4,930	6,129	-88.4	6,041	.529	.61
June	416,880	50,500	3,720	13,900	+130	14,030	1.23	1.37
July	144,310	12,200	2,290	4,655	-191	4,464	.391	.45
August	194,870	22,900	1,660	6,286	-42.1	6,244	.547	.63
September	83,490	5,840	1,120	2,783	-263	2,520	.221	.25
Water year 1940-41	5,184,550	84,200	1,120	14,200	+3.6	14,200	1.24	16.89

½ Change in contents in Chautauqua Lake and in Piney, Tionesta Creek, Mahoning Creek, Crooked Creek, Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, Mill Creek No. 2, Hinkston, Saltlick, Laurel Run, and Trout Run Reservoirs; no corrections made for evaporation and seepage losses. Figures do not include 180,000,000 cubic feet stored prior to Jan. 1 in Tionesta Creek Reservoir and 166,900,000 cubic feet stored prior to July 1 in Mahoning Creek Reservoir.

Ohio River at Sewickley, Pa.

Location.- Water-stage recorder, lat. 40°31'50", long. 80°11'20", 200 feet upstream from highway bridge at Sewickley, Allegheny County, 0.5 mile upstream from Narrows Run, 1.5 miles upstream from Dashields Dam, and 11.8 miles downstream from confluence of Monongahela and Allegheny Rivers. Datum of gage is 690.00 feet above mean sea level, adjustment of 1912.
Drainage area.- 19,500 square miles.
Records available.- October 1933 to September 1941.
Extremes.- Maximum discharge during year, 234,000 second-feet June 5 (gage height, 16.68 feet); minimum, 2,830 second-feet Aug. 11 (gage height, 2.68 feet); minimum daily 3,190 second-feet Aug. 11.
1933-41: Maximum discharge, 574,000 second-feet Mar. 18, 1936 (gage height, 34.75 feet, from floodmark in gage house); minimum, about 2,000 second-feet July 25, 1934; minimum daily, 2,150 second-feet July 25, 1934.
Remarks.- Records good. Some regulation by locks, Chautauqua Lake, Tionesta Creek Reservoir (see page 146), Crooked Creek Reservoir (see page 163), Mahoning Creek Reservoir (see page 159), Tygart Reservoir, Deep Creek Reservoir, Lake Lynn, and 10 smaller reservoirs (combined capacity, excluding that of Chautauqua Lake, 831,635 acre-feet).
Cooperation.- Records of change in lake and reservoir contents furnished by city of Jamestown, Corps of Engineers, U. S. Army, Clarion River Power Co., Bethlehem Steel Co., Johnstown Water Co., Latrobe Water Co., Youghiogheny Hydro-Electric Corp., and West Penn Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,950	14,800	32,400	77,100	29,800	14,900	38,800	11,700	9,250	6,870	13,800	11,600
2	8,260	21,600	34,200	62,100	27,200	13,300	37,800	10,600	15,200	7,780	8,850	10,500
3	8,070	35,100	40,600	70,500	24,800	12,300	48,500	9,870	16,200	10,500	6,430	10,200
4	7,500	27,200	36,000	77,100	23,200	25,600	53,700	9,450	52,900	20,300	5,110	10,200
5	6,870	22,500	26,400	66,300	20,000	59,000	73,000	8,450	210,000	28,000	5,190	12,800
6	6,430	21,800	28,000	49,500	17,600	60,000	127,000	7,880	166,000	29,800	5,110	23,200
7	5,920	20,600	27,200	39,700	18,900	55,800	130,000	8,450	75,300	30,600	4,880	24,000
8	5,750	19,200	37,000	34,200	20,700	48,500	107,000	8,070	51,600	31,500	3,840	15,100
9	5,920	19,700	50,600	30,600	19,000	39,700	85,900	10,100	32,300	31,500	3,370	11,800
10	6,690	16,700	52,600	28,900	15,100	33,300	68,400	11,700	27,200	24,800	3,550	11,400
11	6,340	14,100	46,500	27,200	14,100	37,800	55,800	10,800	22,500	16,900	3,190	13,400
12	5,920	13,100	44,500	23,200	15,400	52,600	47,500	10,200	17,500	15,800	5,580	12,600
13	5,920	16,200	52,900	21,300	17,600	52,600	37,800	9,250	20,800	10,600	6,410	11,500
14	5,510	17,600	95,000	19,700	21,900	44,500	29,800	9,250	32,400	8,070	9,140	9,660
15	4,950	18,200	90,400	18,200	26,400	39,700	28,900	8,530	34,200	10,100	16,100	7,350
16	4,950	17,900	72,700	17,800	31,500	37,800	26,400	10,000	28,000	7,980	28,600	6,780
17	4,670	15,100	77,100	23,400	28,000	38,800	24,000	12,300	33,300	7,140	24,600	6,780
18	5,110	12,800	83,700	33,300	26,400	33,300	21,400	19,200	41,200	7,500	14,500	6,090
19	5,190	12,700	72,700	37,800	20,400	27,200	19,700	22,500	49,500	11,200	13,400	5,670
20	5,270	14,800	60,000	35,100	17,800	26,400	22,000	19,500	33,300	11,400	22,000	5,430
21	4,950	16,500	51,600	29,800	16,500	28,900	26,400	15,500	25,600	9,760	20,900	5,110
22	4,950	17,800	41,600	26,400	15,100	35,100	25,600	13,700	18,300	7,500	13,100	4,810
23	5,110	22,200	33,300	30,600	14,900	44,500	23,200	11,500	14,600	6,960	10,500	4,810
24	5,840	22,200	30,600	51,900	13,700	51,600	23,200	12,400	13,400	6,090	9,050	4,320
25	5,920	20,300	25,600	64,200	14,600	66,300	21,300	11,400	12,300	5,920	8,360	4,180
26	5,840	26,500	24,000	56,800	15,800	74,900	18,300	9,150	11,200	5,430	14,500	4,180
27	5,750	51,800	24,800	45,500	15,700	64,200	16,500	8,550	10,400	5,190	43,900	4,110
28	4,880	53,700	37,000	51,600	16,100	55,800	14,600	9,350	8,850	4,950	45,500	3,550
29	4,950	39,700	71,100	45,500		51,600	13,400	8,550	7,140	4,660	32,400	3,430
30	6,260	35,100	88,100	38,800		46,500	12,200	9,760	6,430	6,020	24,800	3,310
31	11,600		92,700	33,300		39,700		8,850		14,900	18,500	

Month	Observed				Change in contents ∠ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	190,240	11,600	4,670	6,137	-1,084	5,053	0.259	0.30
November	677,500	53,700	12,700	22,580	+41.1	22,620	1.16	1.29
December	1,580,900	95,000	24,000	51,000	-27.5	50,970	2.61	3.01
Calendar year 1940	12,591,800	249,000	3,340	34,400				
January	1,267,400	77,100	17,800	40,880	-244	40,640	2.08	2.40
February	558,200	31,500	13,700	19,940	-369	19,570	1.00	1.04
March	1,312,200	74,900	12,300	42,330	+289	42,620	2.19	2.52
April	1,278,100	130,000	12,200	42,600	+1,142	43,740	2.24	2.50
May	346,510	22,500	7,880	11,180	+637	11,820	.606	.70
June	1,096,870	210,000	6,430	36,560	+662	37,220	1.91	2.13
July	405,720	31,500	4,660	13,090	-502	12,590	.646	.74
August	445,160	45,500	3,190	14,360	-133	14,230	.730	.84
September	267,870	24,000	3,310	8,929	-1,178	7,751	.397	.44
Water year 1940-41	9,426,670	210,000	3,190	25,830	-58.3	25,770	1.32	17.91

∠ Change in contents in Chautauqua Lake, Lake Lynn, Piney, Tionesta Creek, Mahoning Creek, Crooked Creek, Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, Mill Creek No. 2, Minkston, Salt Lick, Laurel Run, Trout Run, Tygart, and Deep Creek Reservoirs; no corrections made for evaporation and seepage losses. Figures do not include 180,300,000 cubic feet stored prior to Jan. 1 in Tionesta Creek Reservoir and 166,900,000 cubic feet stored prior to July 1 in Mahoning Creek Reservoir.

Conewango Creek at Russell, Pa.

Location.- Water-stage recorder, lat. 41°56'20", long. 79°07'55", at highway bridge in Russell, Warren County, 0.4 mile upstream from Ackley Run and 8.0 miles upstream from mouth. Datum of gage is 1,222.18 feet above mean sea level (unadjusted). Prior to Apr. 10, 1941, chain gage at same site and datum.
Drainage area.- 816 square miles.
Records available.- November 1939 to September 1941.
Extremes.- Maximum discharge during year (regulated), 5,380 second-feet Dec. 17 (gage height, 6.9 feet, from graph based on gage readings); minimum daily (regulated), 60 second-feet Sept. 24-30.
1939-41: Maximum discharge (regulated), 10,700 second-feet Apr. 4, 1940 (gage height, 9.44 feet, observed at peak); minimum daily (regulated), that of Sept. 24-30, 1941.
Remarks.- Records good except those for periods of ice effect and those for periods of doubtful or missing gage-height record, all of which are fair. Flow regulated by Chautauqua Lake. Some diurnal fluctuation caused by mills upstream. Gage read twice daily prior to Apr. 10, 1941.
Cooperation.- Record of change in contents in Chautauqua Lake furnished by Department of Public Works, city of Jamestown.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550	394	1,990	3,800	1,450	b860	3,520	466	202	176	122	72
2	515	550	2,350	3,110	1,400	b820	3,800	440	224	188	122	70
3	480	670	1,880	2,980	1,400	835	4,400	422	215	176	115	64
4	446	630	1,660	2,720	1,350	3,170	4,100	416	237	160	105	67
5	446	515	1,660	2,230	1,300	3,660	4,250	398	593	144	102	92
6	418	590	1,770	1,770	1,250	3,800	4,560	392	660	133	99	102
7	418	1,020	2,110	1,660	1,300	3,660	4,560	386	480	137	92	102
8	446	970	3,660	1,660	1,300	3,240	4,560	398	358	140	92	112
9	446	*835	3,380	1,660	1,200	2,720	4,400	404	290	140	89	112
10	418	710	d2,950	1,550	b1,150	2,110	3,880	422	247	137	89	102
11	418	710	d2,750	1,550	b1,150	1,880	2,810	392	219	137	86	102
12	394	970	*d2,900	1,450	*b1,170	*1,880	2,220	315	202	137	108	99
13	394	1,020	d3,100	1,450	1,200	*1,550	1,830	275	193	130	112	99
14	370	880	3,380	1,350	1,250	1,550	1,600	261	206	126	99	98
15	394	750	4,880	*1,400	1,660	1,550	1,530	247	233	126	92	92
16	370	670	4,880	1,350	1,660	1,450	1,360	247	290	122	92	83
17	347	670	5,210	1,450	1,450	1,300	1,250	256	374	133	92	86
18	347	790	5,040	3,110	1,250	925	1,210	280	336	137	83	83
19	347	1,060	4,880	3,520	1,060	1,150	2,600	275	270	137	80	77
20	347	1,450	4,560	3,110	b1,000	1,400	1,890	261	228	133	77	72
21	347	2,110	3,520	2,590	b960	1,300	1,650	242	206	126	74	67
22	347	1,990	2,850	1,990	b1,000	1,400	1,540	228	202	122	74	64
23	347	1,770	2,590	2,110	b960	1,770	1,390	233	188	119	72	62
24	347	1,400	1,990	2,350	b990	3,110	1,240	252	188	112	70	60
25	347	1,060	1,880	2,720	b1,050	3,800	1,120	219	193	108	70	60
26	347	1,020	1,770	2,350	b1,000	3,800	831	197	172	105	72	a60
27	347	925	1,990	2,110	*b960	3,660	644	193	164	102	77	a60
28	324	880	2,980	1,880	b900	3,520	572	188	160	96	74	a60
29	302	835	3,800	1,660		3,660	535	193	172	96	74	a60
30	280	882	3,950	1,550		3,520	499	197	172	105	72	
31	324		3,950	1,450		3,380		184		108	72	

Month	Observed				Change in contents ∠ (mean second-feet)	Adjusted for change in lake contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	11,970	550	280	386	-150	236	0.289	0.33
November	28,726	2,110	394	958	+218	1,176	1.44	1.61
December	96,260	5,210	1,660	3,105	+191	3,296	4.04	4.66
Calendar year 1940	592,857	10,700	159	1,620	+10.9	1,631	2.00	27.22
January	65,640	3,800	1,350	2,117	-165	1,952	2.39	2.76
February	33,770	1,660	900	1,206	-176	1,030	1.26	1.31
March	72,430	3,800	820	2,336	+178	2,514	3.08	3.55
April	70,351	4,560	499	2,345	-65.2	2,280	2.79	3.11
May	9,279	466	184	299	-10.9	288	.353	.41
June	7,874	660	160	262	+24.7	287	.352	.39
July	4,048	188	96	131	-63.1	67.9	.083	.10
August	2,749	122	70	88.7	-69.6	19.1	.023	.03
September	2,397	112	60	79.9	-69.7	10.2	.012	.01
Water year 1940-41	405,494	5,210	60	1,111	-12.2	1,099	1.35	18.27

* Winter discharge measurement made on this day.
∠ Change in contents in Chautauqua Lake; no corrections made for evaporation and seepage losses.
a No gage-height record; discharge computed on basis of recorded range in stage and records for station upstream.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of gage heights and records for station upstream.

Brokenstraw Creek at Youngsville, Pa.

Location.- Water-stage recorder, lat. 41°51'10", long. 79°19'05", 150 feet downstream from highway bridge at Youngsville, Warren County, 500 feet upstream from Mathews Run, and 3.7 miles upstream from mouth. Datum of gage is 1,187.92 feet above mean sea level, adjustment of 1907.

Drainage area.- 321 square miles, including that of Mathews Run.

Records available.- October 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1909 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 27 years (1910-15, 1919-41), 540 second-feet.

Extremes.- Maximum discharge during year, 6,710 second-feet Dec. 13 (gage height, 7.55 feet); minimum, 28 second-feet Aug. 8, 9, Sept. 23, 24 (gage height, 0.05 foot).
1909-41: Maximum discharge observed, 14,300 second-feet Mar. 25, 1913 (gage height, 13.2 feet, present datum), from rating curve extended above 7,000 second-feet; minimum observed, 19 second-feet Oct. 14, 1934.

Remarks.- Records good. Records include discharge of Mathews Run.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	115	764	982	351	212	1,590	196	98	48	41	37
2	89	302	1,020	918	369	204	2,130	187	89	50	37	34
3	84	309	762	1,300	330	293	1,970	171	78	48	35	32
4	78	218	586	1,120	301	1,800	1,810	159	142	46	32	37
5	76	165	b490	688	238	1,810	2,210	156	413	44	31	71
6	76	174	b500	591	293	1,700	2,250	147	260	46	31	81
7	76	260	b1,000	542	322	1,190	1,740	153	177	59	29	57
8	86	252	1,770	465	322	825	1,160	168	150	64	28	43
9	89	218	1,620	455	278	630	825	215	123	66	29	37
10	84	*190	1,360	411	277	513	670	252	106	56	29	37
11	78	209	1,190	382	280	495	548	218	92	52	31	50
12	73	532	*2,040	346	*271	445	470	193	89	52	46	48
13	71	502	5,800	338	286	*382	406	177	106	48	48	41
14	66	326	3,980	263	399	370	360	162	115	44	39	37
15	78	256	2,070	*282	693	395	326	162	138	41	41	34
16	92	228	2,250	274	647	397	297	171	177	41	44	34
17	89	218	3,850	364	548	356	282	184	141	48	43	32
18	86	263	2,700	1,440	387	283	274	196	115	61	37	32
19	86	360	1,550	1,550	338	334	973	171	96	61	35	32
20	81	441	1,050	1,050	330	340	1,300	153	86	54	34	31
21	81	982	885	733	313	388	825	138	81	50	32	31
22	86	918	795	784	301	508	753	129	73	44	32	29
23	81	619	659	2,010	290	843	586	144	71	43	32	28
24	84	435	548	1,660	282	1,770	465	144	68	43	31	28
25	73	334	485	1,190	263	2,370	382	123	64	41	32	29
26	73	263	480	795	252	1,930	334	109	59	43	55	31
27	71	242	630	630	236	1,330	293	103	56	41	54	29
28	71	202	2,160	532	228	1,190	263	95	59	39	41	29
29	73	209	2,460	460		1,330	235	89	61	39	35	32
30	95	228	1,970	392		1,080	209	86	52	39	34	31
31	109		1,380	392		918		81		41	35	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,533	109	66	81.7	0.255	0.29
November	9,970	982	115	332	1.03	1.15
December	48,804	5,800	480	1,574	4.90	5.65
Calendar year 1940	239,188	7,030	57	654	2.04	27.68
January	23,339	2,010	263	753	2.35	2.71
February	9,425	693	228	337	1.05	1.09
March	26,631	2,370	204	859	2.68	3.09
April	25,936	2,250	209	865	2.69	3.00
May	4,832	252	81	156	.486	.56
June	3,434	413	52	114	.355	.40
July	1,492	66	39	48.1	.150	.17
August	1,133	55	28	36.5	.114	.13
September	1,134	81	28	37.8	.118	.13
Water year 1940-41	158,663	5,800	28	435	1.36	18.37

Peak discharge.- Dec. 13 (6 a.m.) 6,710 sec.-ft.; Dec. 17 (1 a.m.) 4,670 sec.-ft.
* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Backwater from trash May 1 to June 5; discharge computed on basis of one discharge measurement, gage heights, and records for nearby stations.

Tionesta Creek at Lynch, Pa.

Location.- Water-stage recorder, lat. 41°36'05", long. 79°03'00", at highway bridge at Lynch, Forest County, 500 feet upstream from Bluejay Creek and 7 miles south of Sheffield. Datum of gage is 1,252.43 feet above mean sea level (unadjusted).

Drainage area.- 233 square miles.

Records available.- March 1938 to September 1941.

Extremes.- 1938-39: Maximum discharge during water year, 3,500 second-feet Feb. 20 (gage height, 5.75 feet); minimum, 15.5 second-feet (revised) Sept. 24, 25 (gage height, 0.70 foot).
1939-40: Maximum discharge during water year, 6,250 second-feet Apr. 4 (gage height, 8.30 feet); minimum, 33 second-feet (revised) Oct. 6 (gage height, 0.86 foot).
1940-41: Maximum discharge during water year, 4,750 second-feet Dec. 13 (gage height, 7.10 feet); minimum, 17.5 second-feet Sept. 27, 28 (gage height, 0.72 foot).
1938-41: Maximum discharge, that of Apr. 4, 1940; minimum, that of Sept. 24, 25, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair.

Revisions.- Revised figures of discharge for the water years 1939 and 1940, superseding those published in previous reports, are given herein.

Discharge, in second-feet, water year October 1938 to September 1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	48	140	130	639	1,430	1,380	333	126	244	228	22
2	56	47	150	120	524	1,020	1,500	291	118	126	162	20
3	52	45	156	150	812	855	1,120	269	108	91	134	20
4	50	44	721	*257	550	788	943	244	105	77	125	28
5	48	48	798	584	470	956	800	228	93	71	99	37
6	56	65	684	1,380	560	1,200	836	216	82	71	82	38
7	67	61	583	956	477	1,090	861	205	77	64	73	35
8	56	58	490	764	416	905	684	194	73	62	95	48
9	54	*63	448	624	441	855	640	205	95	80	140	36
10	50	65	538	651	619	758	634	252	124	60	154	29
11	48	60	459	662	989	645	747	198	167	51	91	26
12	47	56	409	533	706	898	770	174	102	44	71	24
13	44	69	357	426	600	1,110	701	161	82	44	67	24
14	44	144	*312	411	607	*794	741	151	161	132	77	26
15	45	108	280	421	1,780	880	1,720	145	112	80	61	24
16	44	91	250	376	*1,470	1,020	1,530	140	84	51	52	22
17	42	84	230	*330	1,000	850	1,200	134	75	44	45	19.5
18	40	139	210	280	850	650	1,060	126	84	40	42	18.5
19	39	685	190	240	*950	580	1,020	115	80	38	40	17.5
20	42	827	180	220	*2,810	520	818	112	75	35	42	17.5
21	54	480	170	210	2,600	507	729	396	73	33	43	17.5
22	58	366	160	200	1,740	461	645	560	64	30	42	17.5
23	50	308	160	190	1,310	431	565	421	253	29	38	16.5
24	48	270	150	180	1,000	451	502	319	146	29	35	15.5
25	60	228	150	180	820	618	456	252	98	28	33	15.5
26	56	190	140	170	805	861	431	209	80	28	29	17.5
27	54	160	140	160	924	1,280	487	199	69	42	28	82
28	60	140	140	160	1,040	1,200	406	248	62	44	26	89
29	58	140	130	150		950	362	244	68	552	27	51
30	54	140	130	600		1,250	338	170	253	1,290	24	216
31	50		130	841		1,720		142		377	22	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,584	67	39	51.1	0.219	0.25
November	5,229	827	44	174	.747	.83
December	9,185	798	130	296	1.27	1.46
Calendar year						
January	12,556	1,380	120	405	1.74	2.01
February	27,509	2,810	416	982	4.21	4.38
March	27,513	1,720	431	888	3.81	4.39
April	24,626	1,720	338	821	3.52	3.93
May	7,053	560	112	228	.979	1.13
June	3,179	253	62	106	.455	.51
July	3,987	1,290	28	129	.554	.64
August	2,227	228	22	71.8	.308	.36
September	1,070.0	216	15.5	35.7	.153	.17
Water year 1938-39	125,718.0	2,810	15.5	344	1.48	20.06

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 26 to Dec. 2, Dec. 15 to Jan. 3, Jan. 17-30, Feb. 4-6, 13, 17-19, 24, 25, Mar. 18-20.

Tionesta Creek at Lynch, Pa.
(Continued)

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	289	108	250	90	190	3,620	456	667	440	111	285
2	79	238	147	230	90	190	2,600	694	634	332	92	128
3	52	206	763	210	*90	250	2,790	560	490	289	85	102
4	42	179	990	190	85	420	5,600	555	418	257	75	82
5	37	172	645	180	85	840	4,280	485	359	213	71	71
6	35	189	520	*170	100	630	2,800	450	301	185	98	63
7	35	206	450	160	150	490	2,140	418	281	159	131	55
8	73	*f364	455	160	190	*410	2,380	395	328	147	85	224
9	684	f422	390	150	160	380	3,510	404	310	137	67	406
10	246	f350	386	150	200	350	2,180	354	250	153	61	224
11	231	368	*744	140	300	320	1,630	328	261	162	55	176
12	172	332	545	140	540	300	2,490	301	366	216	50	140
13	119	293	570	130	810	350	1,840	305	265	150	69	128
14	97	285	596	370	730	300	1,110	285	220	116	87	111
15	85	265	485	620	640	280	1,050	273	199	105	59	97
16	73	254	445	380	540	270	960	328	179	193	48	94
17	65	246	460	260	460	270	799	305	156	134	47	82
18	59	231	470	230	400	460	1,860	281	227	102	47	75
19	56	213	436	200	490	2,140	1,870	273	468	92	95	67
20	57	196	1,690	180	560	1,340	1,960	598	261	85	77	63
21	57	185	1,530	160	460	960	2,360	465	224	75	54	69
22	67	176	1,050	150	400	782	1,920	422	185	71	47	92
23	82	166	828	140	340	618	1,430	475	172	90	40	69
24	77	153	667	130	300	515	1,140	2,100	307	153	38	73
25	69	144	601	130	260	440	924	1,360	421	99	37	798
26	210	125	485	120	240	440	772	1,080	297	273	69	373
27	368	122	418	110	220	386	640	1,500	261	408	77	250
28	900	131	360	100	210	398	540	1,220	289	220	116	199
29	580	116	320	100	200	734	475	960	480	176	77	169
30	404	111	300	95		1,500	431	777	359	189	59	147
31	328		270	90		*3,100		722		137	190	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,616	900	35	181	0.777	0.90
November	6,727	422	111	224	.961	1.07
December	18,124	1,690	108	585	2.51	2.89
Calendar year 1939	140,187.0	2,810	15.5	384	1.65	22.38
January	5,825	620	90	188	.807	.93
February	9,340	810	85	322	1.38	1.49
March	20,053	3,100	190	647	2.78	3.21
April	58,101	5,600	431	1,937	8.31	9.27
May	19,129	2,100	273	617	2.65	3.06
June	9,635	667	156	321	1.38	1.54
July	5,558	440	71	179	.768	.89
August	2,314	190	37	74.6	.320	.37
September	4,912	798	55	164	.704	.79
Water year 1939-40	165,334	5,600	35	452	1.94	26.41

Peak discharge.- Apr. 1 (4 a.m.) 4,390 sec.-ft.; Apr. 4 (6 a.m.) 6,250 sec.-ft.; Apr. 9 (6 a.m.) 4,060 sec.-ft.
* Winter discharge measurement made on this day.
f Computed on basis of partial gage-height record.
Note.- Stage-discharge relation affected by ice Dec. 28 to Mar. 18.

Tionesta Creek at Lynch, Pa.
(Continued)

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	116	551	804	290	130	774	231	87	71	159	40
2	119	804	535	794	270	130	1,050	213	89	69	114	33
3	108	500	400	1,050	240	170	1,180	192	73	59	87	29
4	97	368	330	834	200	650	1,360	176	162	55	71	31
5	89	318	370	694	160	620	2,410	169	387	55	63	55
6	82	515	330	570	180	470	2,500	162	191	47	55	80
7	80	440	756	500	200	370	1,750	162	128	144	47	58
8	94	372	1,220	460	170	390	1,320	265	116	348	43	38
9	85	328	810	390	160	360	1,050	261	97	128	38	33
10	73	*297	*728	350	170	330	870	328	82	75	38	98
11	69	293	716	320	*180	*310	722	250	73	65	37	106
12	65	430	1,030	320	180	300	618	224	75	65	113	59
13	63	359	4,170	250	200	290	540	213	140	61	74	45
14	59	328	2,230	*210	220	270	480	202	443	48	45	38
15	114	314	1,430	260	250	250	440	192	273	45	55	36
16	134	293	1,580	270	210	230	395	202	254	43	87	33
17	89	277	2,050	281	200	210	386	192	210	77	57	31
18	87	285	1,390	341	190	190	365	192	185	61	43	29
19	77	261	1,080	328	180	200	901	159	134	191	40	28
20	73	277	894	265	180	220	634	144	114	111	40	26
21	71	382	777	220	170	250	570	131	99	65	36	24
22	67	382	662	260	170	300	540	128	87	53	32	24
23	65	341	560	851	160	418	480	144	80	47	29	22
24	65	336	480	684	160	752	440	147	71	43	28	22
25	61	318	431	540	160	1,020	395	116	65	40	37	22
26	61	285	413	460	150	728	364	106	59	37	136	18.5
27	59	293	431	400	150	634	323	97	55	33	100	17.5
28	57	285	1,440	370	*140	684	297	92	59	31	55	17.5
29	57	270	1,390	340		645	265	87	119	63	40	18.5
30	111	260	1,250	330		565	242	82	92	636	36	18.5
31	119		990	310		550		73		214	40	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,578	134	57	83.2	0.357	0.41
November	10,327	804	116	344	1.48	1.65
December	31,424	4,170	330	1,014	4.35	5.02
Calendar year 1940	179,196	5,600	37	490	2.10	28.63
January	14,056	1,050	210	453	1.94	2.24
February	5,290	290	140	189	.811	.84
March	12,636	1,020	130	408	1.75	2.02
April	23,661	2,500	242	789	3.39	3.78
May	5,331	328	73	172	.738	.85
June	4,099	443	55	137	.588	.66
July	3,080	636	31	99.4	.427	.49
August	1,875	159	28	60.5	.260	.30
September	1,130.5	106	17.5	37.7	.162	.18
Water year 1940-41	115,487.5	4,170	17.5	316	1.36	18.44

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 29, 30, Dec. 3-6, Jan. 6-16, 21, 22, Jan. 25 to Mar. 22.

Tionesta Creek Reservoir at Tionesta Creek Dam, Pa.

Location.- Water-stage recorder, lat. 41°28'25", long. 79°26'20", at control tower 0.8 mile upstream from Tionesta Creek Dam, Forest County, 1.8 miles upstream from mouth, and 2 miles southeast of Tionesta. Datum of gage is mean sea level, Corps of Engineers, U. S. Army, datum, which is 2.07 feet below sea level datum of 1929.

Drainage area.- 478 square miles.

Records available.- December 1940 to September 1941.

Extremes.- Maximum contents during period, 11,919 acre-feet Apr. 6 (water-surface elevation, 1,092.54 feet); minimum, 1,912 acre-feet Dec. 5 (water-surface elevation, 1,069.30 feet).

Remarks.- Reservoir is formed by an earth-fill dam, rock faced; storage began during construction prior to Dec. 5, 1940, the date of first record; dam accepted from contractor Jan. 9, 1941. Capacity, 127,880 acre-feet between elevations 1,052.00 (sill of outlet gates) and 1,168.00 feet (crest of spillway); dead storage, 80 acre-feet. Elevation of conservation pool, the minimum elevation to which pool will ordinarily be drawn, is 1,085.00 feet (capacity, 7,780 acre-feet). Reservoir is used for flood-control purposes.

Cooperation.- Records furnished by Corps of Engineers, U. S. Army.

Contents, at midnight, in acre-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				4,130	5,932	6,442	7,692	9,605	8,467	8,900	7,535	8,142
2				4,677	6,330	6,525	9,457	10,028	8,456	8,716	7,653	8,147
3				5,956	6,512	6,728	9,615	10,364	8,229	8,540	7,687	8,219
4				5,928	6,477	7,608	10,248	10,664	8,638	8,384	7,726	8,316
5			2,098	5,560	6,157	8,009	10,601	10,908	9,750	8,342	7,775	8,472
6			3,355	5,560	6,027	7,466	11,889	10,886	10,380	8,436	7,806	8,696
7			4,324	5,537	6,174	6,785	10,342	10,419	10,618	8,969	7,816	8,916
8			5,680	5,652	6,099	6,644	8,680	8,576	10,721	10,111	7,882	9,054
9			3,651	5,361	5,880	6,325	8,852	7,706	10,766	9,869	7,974	9,154
10			3,455	4,309	5,840	5,880	8,142	8,106	10,783	8,456	8,061	9,437
11			3,879	4,096	6,090	5,956	8,394	8,214	10,715	6,578	8,234	9,777
12			3,066	3,614	6,446	6,334	8,768	8,188	10,635	6,346	8,208	9,880
13			7,491	3,344	6,858	6,521	8,831	8,091	10,789	6,516	8,352	9,886
14			6,187	3,300	7,107	6,684	8,670	7,948	11,895	6,640	8,519	9,864
15			6,258	3,570	7,238	6,905	8,332	8,117	11,142	6,732	8,742	9,804
16			6,710	4,233	7,339	7,177	7,877	8,493	10,006	5,900	8,990	9,750
17			7,525	4,548	7,078	7,210	7,584	8,884	9,378	5,420	9,218	9,680
18			6,890	5,131	6,472	6,980	7,756	9,234	9,271	5,513	9,351	9,594
19			6,565	6,128	6,384	6,905	9,702	9,464	9,255	5,648	9,470	9,497
20			3,603	6,684	6,679	6,956	10,067	9,615	9,394	5,692	9,524	9,399
21			2,488	7,097	6,989	7,187	9,984	9,713	9,453	5,632	9,491	9,298
22			2,382	7,471	7,339	7,638	9,659	9,930	9,448	5,628	8,358	9,192
23			2,396	7,943	7,682	8,096	9,091	10,050	9,399	5,652	8,326	9,080
24			2,393	6,858	7,770	9,117	8,545	9,896	9,319	5,740	8,275	8,964
25			2,575	6,115	7,486	10,194	8,147	9,561	9,218	5,816	8,254	8,863
26			2,654	6,019	7,172	8,937	8,112	9,128	9,086	5,872	8,264	8,742
27			2,763	5,724	6,890	8,137	8,441	8,716	8,964	5,920	8,259	8,638
28			3,754	5,812	6,596	8,295	8,654	8,498	8,905	5,973	8,244	8,529
29			3,277	6,010		8,321	8,758	8,545	9,133	6,023	8,249	8,430
30			3,784	5,960		7,933	9,128	8,529	9,022	6,900	8,229	8,342
31			4,138	5,932		7,511		8,482		7,486	8,183	

Monthly elevation and contents, December 1940 to September 1941

Date	Elevation (feet) /	Contents (acre-feet)	Change in contents during month (acre-feet)
Dec. 5	1,070.07	2,098	
Dec. 31	1,076.31	4,138	
Calendar year 1940	-	-	+4,138
Jan. 31	1,080.93	5,932	+1,794
Feb. 28	1,082.49	6,596	+664
Mar. 31	1,084.45	7,511	+915
Apr. 30	1,087.60	9,128	+1,617
May 31	1,086.37	8,482	-646
June 30	1,087.40	9,022	+540
July 31	1,084.40	7,486	-1,536
Aug. 31	1,085.79	8,183	+697
Sept. 30	1,086.10	8,342	+159
Water year 1940-41	-	-	+8,342

/ Elevation at midnight.

Tionesta Creek at Tionesta Creek Dam, Pa.

Location.- Water-stage recorder, lat. 41°28'50", long. 79°26'40", 300 feet downstream from outlet tunnel at Tionesta Creek Dam, Forest County, 0.9 mile upstream from mouth, and 2 miles southeast of Tionesta. Datum of gage is 1,045.93 feet above mean sea level (unadjusted). Auxiliary gages, water-stage recorders, 0.6 mile and 0.2 mile upstream from mouth. Datum of auxiliary gages is 1,039.44 feet above mean sea level (unadjusted).

Drainage area.- 479 square miles.

Records available.- June 1940 to September 1941.

Extremes.- 1940: Maximum discharge during period June to September, 1,140 second-feet Sept. 25 (gage height, 1.95 feet); minimum daily, 60 second-feet Aug. 25.
1940-41: Maximum discharge during water year (regulated), 7,310 second-feet Dec. 13; maximum gage height, 4.62 feet Dec. 13, affected by backwater from Allegheny River; minimum daily discharge (regulated), 6 second-feet Aug. 10, Sept. 6, 7.

Remarks.- Records good except those below 200 second-feet and those for periods of no gage-height record, all of which are poor. Regulation from construction operations on Tionesta Creek Dam and by Tionesta Creek Reservoir (see page 146). Discharge prior to Aug. 10, 1940, computed on basis of staff-gage readings made twice daily. Discharge for periods of backwater from Allegheny River, Dec. 13, 14, Apr. 6, 7, computed by slope method using the auxiliary gages.

Cooperation.- Results of 37 discharge measurements and record of contents in Tionesta Creek Reservoir furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										784	160	456
2										760	132	325
3										604	130	168
4										626	126	130
5										398	112	109
6										325	108	92
7										278	116	88
8										256	160	85
9										243	118	337
10										313	98	426
11										360	86	256
12										523	78	197
13										313	78	169
14										197	90	155
15										166	116	144
16									337	231	92	128
17									337	296	76	118
18									290	189	72	109
19									626	151	88	101
20									626	140	127	97
21									398	128	113	97
22									337	120	85	100
23									284	124	74	114
24									308	128	64	109
25									615	135	60	467
26									564	173	78	854
27									467	604	129	375
28									383	431	151	a290
29									467	247	155	a230
30									726	210	120	a205
31										214	114	

Month	Observed					Mean	Per square mile	Run-off in inches
	Second-foot-days	Maximum	Minimum	Mean				
October								
November								
December								
Calendar year								
January								
February								
March								
April								
May								
June 16-30	6,765	726	284	451				
July	9,667	784	120	312				
August	3,304	160	60	107				
September	6,533	854	85	218				
Water year								

a No gage-height record; discharge computed on basis of records for stations at Lynch and Nebraska.

Tionesta Creek at Tionesta Creek Dam, Pa.

(continued)

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a175	133	548	1,770	599	467	1,370	189	184	207	200	76
2	a150	574	937	1,450	440	a200	1,150	189	184	207	134	40
3	a130	1,020	a1,050	1,700	458	a200	2,030	189	273	207	102	10
4	a120	594	a320	1,930	458	a988	1,930	186	189	207	78	10
5	110	422	a530	1,690	458	1,140	3,590	184	189	121	65	14
6	106	498	a100	1,310	449	1,380	4,010	318	189	40	65	6
7	100	681	a210	1,130	440	1,270	4,130	564	192	49	64	6
8	100	554	1,750	a840	440	988	3,250	1,110	192	244	a16	9
9	104	458	2,400	a960	440	962	1,970	440	189	458	a7	10
10	104	405	1,340	a1,100	326	938	1,660	422	189	914	a6	9
11	92	383	1,130	878	217	670	1,190	422	184	1,120	a7	21
12	86	453	1,870	854	197	413	938	422	192	247	a200	68
13	85	584	5,680	789	197	422	938	422	200	47	a28	70
14	82	467	5,350	354	318	422	938	422	770	47	a7	88
15	82	405	2,860	240	440	431	938	288	1,190	46	a7	87
16	116	486	2,580	169	440	422	938	195	1,310	619	a7	85
17	133	413	3,570	360	572	422	883	195	888	305	a7	92
18	108	390	3,170	378	a640	422	637	195	476	69	a7	95
19	102	367	2,320	169	a400	422	633	197	321	149	a7	95
20	100	360	3,390	169	a210	422	a900	197	197	186	48	95
21	95	370	2,180	171	a200	422	a900	197	197	146	74	100
22	92	44	1,500	354	200	422	a900	197	195	115	626	100
23	88	749	1,260	1,520	189	710	a900	372	195	74	60	98
24	86	905	1,080	1,860	319	1,180	a860	485	197	39	61	95
25	82	318	830	1,470	458	1,900	a840	485	197	38	65	82
26	84	38	830	1,130	467	2,210	795	476	195	39	118	86
27	82	39	830	1,130	467	1,780	485	426	179	42	164	104
28	80	252	2,180	842	467	1,400	476	303	158	44	95	104
29	79	183	3,460	703		1,400	368	181	110	46	78	102
30	97	378	2,570	703		1,380	192	184	243	72	78	104
31	132		2,010	714		1,370		184		200	76	

Month	Observed				Change in contents ✓ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	3,182	175	79	103				
November	12,923	1,020	38	431				
December	59,835	5,680	100	1,930				
Calendar year								
January	28,837	1,930	169	930	+29.2	959	2.00	2.31
February	10,906	640	189	390	+12.0	402	.839	.87
March	27,175	2,210	200	877	+14.9	892	1.86	2.14
April	40,739	4,130	192	1,358	+27.2	1,385	2.89	3.22
May	10,236	1,110	181	330	-10.5	320	.668	.77
June	9,564	1,310	110	319	+9.1	328	.685	.76
July	6,344	1,120	38	205	-25.0	180	.376	.43
August	2,557	626	6	82.5	+11.3	93.8	.196	.23
September	1,960	104	6	65.3	+2.7	68.0	.142	.16
Water year 1940-41	214,258	5,680	6	587				

a No gage-height record; discharge computed on basis of weather records, gage heights at middle gage, and records for station at Lynch.

✓ Change in contents of Tionesta Creek Reservoir; no corrections made for evaporation and seepage losses.

Oil Creek at Rouseville, Pa.

Location.- Water-stage recorder, lat. 41°28'55", long. 79°41'40", 200 feet downstream from highway bridge, 200 feet upstream from Cherrytree Run, and 1 mile upstream from Rouseville, Venango County. Datum of gage is 1,028.33 feet above mean sea level (unadjusted). Prior to June 9, 1941, chain gage at site 200 feet upstream at same datum.

Drainage area.- 300 square miles, including that of Cherrytree Run.

Records available.- June 1932 to September 1941.

Extremes.- Maximum discharge during year, 8,460 second-feet Dec. 13 (gage height, 8.8 feet, from graph based on gage readings); minimum, 23 second-feet Sept. 27, 28. 1932-41: Maximum discharge observed, 11,300 second-feet Jan. 25, 1937 (gage height, 9.85 feet); minimum observed, 22 second-feet July 29, Sept. 5, 7, 1934 (gage height, 1.76 feet).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily prior to June 9. Records include discharge of Cherrytree Run. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	83	737	810	290	160	1,030	214	98	68	63	38
2	60	346	1,030	778	280	150	1,350	200	90	85	52	35
3	58	283	664	1,560	250	219	1,100	175	85	57	43	33
4	55	164	430	980	220	1,470	1,030	181	166	57	37	42
5	49	136	440	596	200	*1,450	1,380	164	295	53	36	95
6	49	194	400	540	*280	928	2,290	161	194	46	34	146
7	55	207	770	438	320	604	1,180	164	151	263	32	92
8	58	200	1,790	392	240	574	858	207	116	391	29	59
9	55	188	1,110	392	190	465	664	200	95	155	29	48
10	53	158	890	369	210	330	574	200	83	102	28	46
11	47	286	890	327	230	370	492	169	74	83	45	48
12	44	762	1,430	308	200	380	440	155	76	83	429	48
13	38	368	6,520	308	230	320	368	146	121	72	151	43
14	40	264	*2,740	270	308	310	346	144	150	61	85	38
15	70	234	1,010	270	627	370	324	141	197	57	92	36
16	73	207	1,480	*284	513	380	308	169	200	59	105	35
17	64	200	3,750	284	414	350	279	161	163	74	76	33
18	62	234	1,940	1,020	340	330	287	164	124	73	59	32
19	58	291	987	1,120	310	310	686	141	102	211	55	31
20	55	437	716	540	290	346	546	128	92	113	50	29
21	51	776	684	370	270	392	492	118	80	78	44	28
22	47	546	567	490	240	546	492	107	74	68	43	26
23	55	392	488	1,800	230	892	415	136	68	61	39	26
24	51	324	414	1,180	210	1,770	368	149	65	55	36	26
25	51	279	369	747	190	2,210	324	118	57	53	46	26
26	47	238	348	596	*190	1,110	279	102	53	50	107	26
27	47	238	431	488	180	783	260	102	52	46	90	23
28	49	196	2,130	414	180	633	238	90	68	43	63	23
29	49	194	2,160	370		890	234	90	97	48	48	24
30	94	272	1,630	330		633	220	87	74	61	43	24
31	102		1,010	300		633		85		78	39	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,750	102	38	56.5	0.188	0.22
November	8,697	776	83	290	.967	1.08
December	39,955	6,520	348	1,289	4.30	4.96
Calendar year 1940	206,253	6,520	38	564	1.88	25.61
January	18,671	1,800	270	602	2.01	2.32
February	7,632	627	180	273	.910	.95
March	20,308	2,210	150	655	2.18	2.51
April	18,854	2,290	220	628	2.09	2.33
May	4,568	214	85	147	.490	.56
June	3,340	295	52	111	.370	.41
July	2,804	391	43	90.5	.302	.35
August	2,128	429	28	68.6	.229	.26
September	1,259	146	23	42.0	.140	.16
Water year 1940-41	129,966	6,520	23	356	1.19	16.11

* Winter discharge measurement made on this day.

Note.- Backwater from leaves Oct. 1 to Nov. 2; discharge computed on basis of one discharge measurement, gage heights, and records for station on Sugar Creek at Sugarcreek. Stage-discharge relation affected by ice Dec. 4-6, Jan. 21, Jan. 29 to Feb. 13, Feb. 18 to Mar. 2, Mar. 10-19.

French Creek at Carters Corners, Pa.

Location.- Chain gage, lat. 41°57'20", long. 79°52'40", at highway bridge at Carters Corners, Erie County, 4 miles northwest of Union City and 5 miles upstream from South Branch of French Creek. Datum of gage is 1,235.7 feet above mean sea level.

Drainage area.- 208 square miles.

Records available.- October 1919 to September 1920; October 1932 to September 1941 in reports of U. S. Geological Survey; May 1910 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 25 years (1910-16, 1919-29, 1932-41), 407 second-feet.

Extremes.- Maximum discharge during year, 5,160 second-feet Dec. 13 (gage height, 8.2 feet, from graph based on gage readings); minimum daily, 11 second-feet (estimated) Aug. 8-11.
1910-41: Maximum discharge observed, 11,700 second-feet Mar. 25, 1913, from rating curve extended above 7,000 second-feet; maximum gage height, about 15.2 feet Mar. 12, 1920 (ice jam); minimum discharge not determined.

Remarks.- Records fair except those for periods of ice effect and those for periods of missing or doubtful gage-height record, which are poor. Gage read twice daily.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	87	531	672	240	210	1,370	84	48	37	a19	20
2	46	236	750	672	230	230	1,330	74	51	36	a16	17
3	41	443	802	672	220	300	1,140	67	46	29	a14	17
4	39	554	650	529	210	500	1,080	60	67	20	a12	18
5	38	262	390	375	200	1,600	1,440	53	121	18	a12	28
6	36	238	422	330	220	d1,500	1,580	49	100	18	a12	36
7	36	486	464	300	240	d1,000	1,020	49	62	108	a12	33
8	47	326	655	280	270	d750	647	78	54	200	a11	27
9	48	242	964	280	250	d600	461	144	49	121	a11	21
10	47	187	908	260	220	d540	396	159	41	77	a11	22
11	44	250	964	250	210	d480	335	154	34	57	a11	d27
12	43	554	*1,400	240	*230	439	298	119	36	46	39	d31
13	39	395	4,040	230	264	396	255	104	44	39	37	d27
14	36	218	2,120	220	414	*368	213	94	49	26	29	d25
15	43	171	1,180	200	746	375	197	88	77	22	22	d23
16	48	176	1,470	*230	696	355	176	88	149	26	22	d22
17	52	218	3,070	310	461	298	174	112	154	49	20	d21
18	58	317	1,490	1,730	380	260	178	121	92	44	17	d20
19	56	422	902	1,080	330	280	536	110	68	32	17	d20
20	56	776	623	798	310	310	375	83	49	29	16	d20
21	51	1,260	647	647	280	355	439	65	41	26	17	d18
22	56	964	552	1,020	290	486	375	68	36	24	16	d18
23	51	640	461	1,610	260	913	264	67	32	20	13	d18
24	50	344	396	1,140	240	1,700	208	67	30	19	12	d17
25	48	268	355	852	230	2,070	164	49	27	16	19	d16
26	48	206	335	552	*250	1,260	140	50	27	a15	31	d15
27	48	192	744	396	230	798	115	45	34	a14	38	d14
28	47	195	1,430	340	210	908	104	46	34	a14	27	d14
29	46	298	1,680	310		1,080	83	54	37	a14	21	d13
30	55	402	1,200	290		696	84	51	39	a16	17	d14
31	66		908	260		696		41		a19	16	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,470	66	36	47.4	0.228	0.26
November	11,327	1,260	87	378	1.82	2.03
December	32,403	4,040	335	1,045	5.02	5.79
Calendar year 1940	177,184	5,330	14	484	2.33	31.66
January	17,075	1,730	200	551	2.65	3.06
February	8,331	746	200	298	1.43	1.49
March	21,753	2,070	210	702	3.38	3.90
April	15,177	1,580	83	506	2.43	2.71
May	2,493	159	41	80.4	.387	.45
June	1,728	154	27	57.6	.277	.31
July	1,231	200	14	39.7	.191	.22
August	587	39	11	18.9	.091	.10
September	632	36	13	21.1	.101	.11
Water year 1940-41	114,207	4,040	11	313	1.50	20.43

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations at Venango and Utica.
d Doubtful gage-height record; discharge computed on basis of records for stations at Venango and Utica.
Note.- Stage-discharge relation affected by ice Dec. 5, Jan. 6-17, Jan. 28 to Feb. 12, Feb. 18 to Mar. 5, Mar. 18-20.

French Creek at Venango, Pa.

Location.- Wire-weight gage, lat. 41°46'35", long. 80°06'30", at highway bridge at Venango, Crawford County, 1.5 miles upstream from Gravel Run and 2.0 miles downstream from Boles Run. Datum of gage is 1,117.18 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 597 square miles.

Records available.- December 1938 to September 1941.

Extremes.- Maximum discharge during year, 8,780 second-feet Dec. 14 (gage height, 9.7 feet, from graph based on gage readings); minimum observed, 32 second-feet Sept. 29 (gage height, 1.01 feet).
1938-41: Maximum discharge, 12,500 second-feet Feb. 21, 1939 (gage height, 11.70 feet), by discharge measurement at peak; minimum observed, that of Sept. 29, 1941.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily. Slight regulation at low flow by small mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	156	960	1,990	740	490	2,140	329	125	90	70	51
2	127	310	1,410	1,900	700	500	3,160	292	130	83	60	53
3	114	560	1,250	2,700	660	610	2,590	274	132	78	51	51
4	101	465	1,100	2,480	620	2,620	2,180	257	155	73	46	48
5	101	355	980	1,450	600	3,650	2,280	257	354	69	45	70
6	87	375	1,050	1,100	640	3,780	4,040	240	372	64	43	97
7	82	585	1,370	920	680	2,940	3,000	240	257	64	39	109
8	103	685	3,040	840	740	1,990	1,720	257	212	170	36	90
9	114	585	3,280	840	680	1,560	1,250	292	162	292	36	80
10	115	442	2,580	780	630	1,480	1,030	348	136	167	37	73
11	114	606	2,360	720	590	1,070	890	348	123	117	37	77
12	96	1,330	*3,120	760	580	1,250	760	348	125	105	310	88
13	91	1,100	6,980	710	*720	1,100	672	292	139	94	232	78
14	87	685	8,520	660	1,090	*1,100	593	257	162	87	113	61
15	94	535	5,180	720	1,900	1,100	520	240	257	77	97	56
16	101	488	3,420	*792	1,810	1,100	474	257	368	73	94	54
17	114	442	5,730	886	1,520	925	452	257	368	96	80	51
18	123	560	5,800	2,380	960	645	452	274	310	109	69	48
19	131	860	5,130	3,050	792	890	1,510	292	224	97	60	48
20	127	1,260	1,900	1,810	740	1,030	1,480	257	178	94	56	48
21	127	2,310	1,640	1,560	700	1,250	1,400	224	141	87	51	45
22	123	2,300	1,560	1,560	720	1,640	1,250	206	121	83	48	43
23	119	1,490	1,320	3,180	640	2,100	1,030	224	109	70	46	43
24	115	1,030	1,180	4,100	590	3,470	760	218	96	64	41	41
25	110	800	1,030	2,660	560	4,370	645	194	90	60	48	39
26	105	610	960	1,900	580	3,650	544	172	83	57	101	37
27	103	535	1,030	1,400	540	2,180	430	160	80	54	125	35
28	98	488	1,900	1,180	510	1,990	430	145	83	52	96	33
29	105	660	4,090	1,000		2,080	388	134	94	52	77	32
30	115	610	3,850	900		1,810	348	136	96	59	73	34
31	141		2,700	800		1,640		130		69	66	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,424	141	82	110	0.184	0.21
November	23,217	2,310	156	774	1.30	1.45
December	84,420	8,520	960	2,723	4.56	5.26
Calendar year 1940	431,095	11,000	63	1,178	1.97	26.85
January	47,728	4,100	660	1,540	2.58	2.97
February	22,232	1,900	510	794	1.33	1.38
March	56,010	4,370	490	1,807	3.03	3.49
April	38,418	4,040	348	1,281	2.15	2.40
May	7,551	348	130	244	.409	.47
June	5,282	372	80	176	.295	.33
July	2,806	292	52	905	.152	.18
August	2,383	310	36	76.9	.129	.15
September	1,713	109	32	57.1	.096	.11
Water year 1940-41	295,184	8,520	32	809	1.36	18.40

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 7-15, Jan. 29 to Feb. 13, Feb. 20 to Mar. 2.

French Creek at Utica, Pa.

Location.- Water-stage recorder, lat. 41°26'15", long. 79°57'20", at highway bridge at Utica, Venango County, a third of a mile upstream from Mill Creek. Datum of gage is 1,019.54 feet above mean sea level, adjustment of 1907.

Drainage area.- 1,028 square miles.

Records available.- August 1932 to September 1941.

Extremes.- Maximum discharge during year, 9,390 second-feet Dec. 14 (gage height, 8.85 feet); minimum, 65 second-feet Sept. 30 (gage height, 1.17 feet).
1932-41: Maximum discharge, 19,200 second-feet Mar. 27, 1936 (gage height, 11.57 feet), from rating curve extended above 14,000 second-feet; minimum, 43 second-feet July 30, 1934 (gage height, 1.03 feet).
Maximum stage known, about 15.7 feet during flood of March 1913 (discharge, 35,600 second-feet, from rating curve extended above 14,000 second-feet).

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	218	235	2,280	3,970	1,300	820	2,430	539	201	134	198	141
2	195	460	3,400	3,440	1,200	800	3,520	503	189	128	171	122
3	179	660	3,480	4,050	1,100	885	3,590	468	182	122	154	113
4	167	790	2,660	4,210	1,050	3,160	2,940	439	278	111	154	120
5	156	624	2,300	3,150	*970	*4,700	2,940	411	513	104	146	166
6	148	545	2,250	2,100	970	5,040	4,530	389	631	98	124	236
7	145	636	2,790	1,890	1,100	4,530	4,700	389	539	201	106	218
8	145	990	4,540	1,790	1,220	3,290	3,290	402	402	411	93	201
9	148	1,040	4,880	1,690	1,050	2,490	2,260	420	311	346	85	162
10	159	854	4,710	1,540	950	2,040	1,790	444	251	366	77	144
11	162	873	4,710	1,450	900	1,840	1,450	478	218	243	77	138
12	159	1,800	4,880	1,360	960	1,940	1,270	468	195	208	1,330	126
13	150	2,150	*7,680	1,360	1,180	1,840	1,100	434	225	162	1,240	126
14	142	1,580	9,190	1,130	1,740	1,740	980	393	267	144	670	122
15	153	1,100	8,990	*1,170	2,800	1,640	884	375	315	136	555	115
16	153	879	6,830	1,180	3,010	1,840	800	420	539	144	459	104
17	156	806	7,190	1,180	2,610	1,840	748	415	648	157	319	98
18	176	888	7,590	2,550	1,840	1,210	735	402	642	188	243	91
19	179	1,310	6,660	4,130	1,540	1,400	1,180	406	518	300	205	85
20	195	1,910	4,050	3,360	1,320	1,640	2,260	411	371	201	173	82
21	195	2,870	3,080	2,610	1,180	1,790	2,040	367	287	165	148	82
22	186	3,480	2,610	2,430	1,220	2,200	1,890	327	233	144	134	80
23	182	2,800	2,260	4,370	1,180	2,940	1,590	323	198	134	119	79
24	179	2,150	1,940	5,040	1,100	4,130	1,270	340	173	122	106	79
25	170	1,580	1,690	4,530	*1,050	5,210	1,040	319	154	108	108	77
26	170	1,260	1,540	3,360	1,080	5,390	884	287	141	100	697	75
27	164	1,170	1,540	2,550	940	4,130	774	259	131	94	340	69
28	162	1,130	2,990	1,940	860	3,010	693	236	128	93	287	69
29	153	960	5,210	1,690		2,870	631	215	131	93	279	71
30	211	1,150	6,110	1,540		2,800	582	211	136	249	185	66
31	218		5,210	1,400		2,320		195		222	159	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,275	218	142	170	0.165	0.19
November	38,680	3,480	235	1,289	1.25	1.39
December	135,240	9,190	1,540	4,363	4.24	4.89
Calendar year 1940	691,011	13,900	95	1,888	1.84	25.00
January	78,160	5,040	1,130	2,521	2.45	2.82
February	37,420	3,010	860	1,336	1.30	1.35
March	81,675	5,390	800	2,635	2.56	2.95
April	54,791	4,700	582	1,826	1.78	1.99
May	11,685	539	195	377	.367	.42
June	9,147	648	128	305	.297	.33
July	5,428	411	93	175	.170	.20
August	9,141	1,330	77	295	.287	.33
September	3,457	236	66	115	.112	.12
Water year 1940-41	470,099	9,190	66	1,288	1.25	16.98

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 5, 6, Feb. 1-12, Feb. 21 to Mar. 2.

Sugar Creek at Sugarcreek, Pa.

Location.- Water-stage recorder, lat. 41°25'45", long. 79°52'45", at highway bridge three-quarters of a mile north of Sugarcreek, Venango County, three-quarters of a mile upstream from mouth, and 3 miles northwest of Franklin. Datum of gage is 1,016.03 feet above mean sea level, adjustment of 1912.

Drainage area.- 166 square miles.

Records available.- August 1932 to September 1941.

Extremes.- Maximum discharge during year, 3,210 second-feet Dec. 13 (gage height, 6.14 feet); minimum, 19 second-feet Sept. 26, 27 (gage height, 1.14 feet); minimum daily, 21 second-feet Sept. 27, 29.

1932-41: Maximum discharge, 8,690 second-feet Jan. 25, 1937 (gage height, 8.5 feet, from graph based on gage readings); minimum observed, 9.2 second-feet Oct. 22, 1935; minimum daily, 10 second-feet Oct. 14, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	52	687	500	190	118	409	102	58	43	55	36
2	32	273	460	569	180	112	438	98	58	43	46	34
3	30	148	324	878	160	161	366	92	57	43	42	32
4	30	106	215	579	145	1,120	323	88	116	42	38	36
5	30	94	220	431	*135	*584	673	86	162	42	36	46
6	27	130	200	351	150	442	1,040	84	94	37	34	64
7	30	126	757	295	170	334	616	92	78	150	31	44
8	36	126	812	260	150	303	442	108	78	328	30	36
9	31	108	482	230	130	270	352	96	67	90	28	34
10	26	102	469	210	125	232	303	90	55	64	28	34
11	29	294	448	195	140	250	262	80	55	57	32	35
12	26	388	770	180	130	252	237	78	55	57	950	32
13	27	213	*2,000	165	163	229	218	74	67	50	157	30
14	29	174	816	145	276	244	203	71	65	45	118	27
15	36	154	500	*172	396	270	190	74	67	46	147	29
16	42	139	1,040	165	307	270	178	98	92	48	141	27
17	38	130	1,330	181	283	250	164	98	71	48	98	26
18	36	159	757	560	231	230	174	92	62	49	75	26
19	38	179	529	413	216	220	348	80	55	190	68	26
20	36	277	440	314	198	240	257	74	52	71	57	25
21	38	314	380	243	181	325	240	67	50	55	54	24
22	38	244	320	334	172	460	220	65	48	48	50	25
23	36	198	280	1,050	159	644	194	71	52	45	46	24
24	38	191	246	538	152	970	176	69	50	40	44	24
25	36	167	228	423	*143	886	160	62	48	37	47	24
26	36	145	220	340	*134	564	147	60	45	36	132	22
27	39	179	220	298	132	446	136	58	43	32	66	21
28	38	184	1,190	263	122	438	125	55	46	32	50	22
29	35	167	1,080	235		380	115	55	58	38	44	21
30	59	167	900	210		320	108	58	48	149	40	22
31	50		644	195		305		53		69	39	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,087	59	26	35.1	0.211	0.24
November	5,328	388	52	178	1.07	1.19
December	19,014	2,000	200	613	3.69	4.25
Calendar year 1940	104,163	2,570	26	285	1.72	23.30
January	10,922	1,050	145	352	2.12	2.44
February	5,070	396	122	181	1.09	1.14
March	11,869	1,120	112	383	2.31	2.66
April	8,814	1,040	108	294	1.77	1.97
May	2,428	108	53	78.3	.472	.54
June	1,952	162	43	65.1	.392	.44
July	2,124	328	32	68.5	.413	.48
August	2,823	950	28	91.1	.549	.63
September	908	64	21	30.3	.183	.20
Water year 1940-41	72,339	2,000	21	198	1.19	16.18

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 9-14, Jan. 29 to Feb. 12, Mar. 17-19.

Clarion River at Ridgway, Pa.

Location.- Chain gage, lat. 41°25', long. 78°44', at bridge on Main Street in Ridgway, Elk County, 50 feet downstream from Elk Creek. Datum of gage is 1,361.62 feet above mean sea level (unadjusted).

Drainage area.- 303 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 5,660 second-feet Dec. 13 (gage height, 7.4 feet, from graph based on gage readings); minimum observed, 17 second-feet Sept. 29 (gage height, 0.47 foot); minimum daily, 21 second-feet Sept. 29.

Remarks.- Records good except those for period of ice effect, which are fair. Gage read twice daily. Some regulation at low flow by mills and tanneries upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	86	488	1,190	359	138	1,030	280	111	117	117	48
2	100	834	502	1,070	348	132	1,310	266	106	98	86	43
3	98	496	359	1,230	328	176	1,400	239	86	86	69	43
4	88	343	348	1,070	270	853	1,560	227	300	123	65	45
5	88	280	402	780	172	710	3,530	214	585	111	61	67
6	79	364	348	710	280	556	3,400	202	284	81	58	155
7	75	353	919	580	° 284	402	2,370	187	176	114	51	77
8	86	303	1,650	514	248	448	1,830	293	152	441	49	58
9	79	275	1,030	496	210	414	1,400	239	126	162	48	48
10	75	257	958	448	176	380	1,110	239	106	106	45	54
11	75	252	*958	414	*199	*370	885	191	96	98	43	65
12	75	522	1,170	348	214	338	745	172	96	194	108	51
13	67	419	4,420	359	239	289	645	162	242	106	78	53
14	63	364	2,550	*195	257	239	562	155	1,470	81	51	40
15	75	370	1,740	298	323	318	502	148	1,230	69	73	45
16	79	333	1,990	280	270	333	443	169	1,070	192	129	42
17	71	308	2,280	293	231	284	484	176	745	422	69	40
18	65	303	1,560	391	231	231	408	165	678	135	58	39
19	65	280	1,230	380	206	284	1,440	135	478	687	54	40
20	60	328	1,030	289	b195	275	995	120	353	320	54	33
21	58	460	920	231	b190	333	886	111	293	199	51	32
22	65	402	780	266	b180	402	780	114	248	148	48	28
23	61	353	645	891	b180	612	645	248	214	129	45	33
24	58	370	550	568	176	1,110	612	214	206	114	43	32
25	58	359	514	574	176	1,480	526	148	169	100	48	33
26	63	313	490	568	169	1,030	460	129	145	86	162	28
27	61	328	571	520	172	958	419	117	126	71	193	28
28	51	318	2,050	484	158	1,070	375	108	117	71	79	31
29	61	308	2,100	437		958	338	106	141	65	61	21
30	111	298	1,920	397		815	313	96	162	246	51	28
31	111		1,480	397		780		86		152	48	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,332	111	51	75.2	0.248	0.29
November	10,579	834	86	353	1.17	1.31
December	37,952	4,420	348	1,224	4.04	4.66
Calendar year						
January	16,668	1,230	195	538	1.78	2.05
February	6,441	359	158	230	.759	.79
March	16,718	1,480	132	539	1.78	2.05
April	31,402	3,530	313	1,047	3.46	3.86
May	5,456	293	86	176	.581	.67
June	10,311	1,470	86	344	1.14	1.27
July	5,124	687	65	165	.545	.63
August	2,195	193	43	70.8	.234	.27
September	1,380	155	21	46.0	.152	.17
Water year 1940-41	146,558	4,420	21	402	1.33	18.02

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Backwater from debris and leaves Oct. 1 to Nov. 2; discharge computed on basis of one discharge measurement, gage heights, and records for station at Cooksburg.

Clarion River at Cooksburg, Pa.

Location.- Water-stage recorder, lat. 41°19'50", long. 79°18'35", at highway bridge at Cooksburg, Forest County, 300 feet downstream from Toms Run and 5 miles upstream from Canther Run. Datum of gage is 1,146.48 feet above mean sea level, adjustment of 1912.

Drainage area.- 807 square miles.

Records available.- November 1938 to September 1941.

Extremes.- Maximum discharge during year, 12,500 second-feet Dec. 13; maximum gage height, 11.72 feet Mar. 4 (ice jam); minimum discharge, 70 second-feet Sept. 28, 30 (gage height, 1.37 feet).
1938-41: Maximum discharge, 17,800 second-feet Apr. 1, 1940 (gage height, 11.34 feet); minimum, 41 second-feet Aug. 30, 1939 (gage height, 1.22 feet).
Maximum stage known, about 19 feet Mar. 17, 1936, from floodmarks (discharge not determined).

Remarks.- Records good except those for period of ice effect, which are fair. Some regulation at low flow by industrial plants upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	269	299	1,090	3,130	1,110	580	2,400	772	346	430	440	140
2	252	821	1,630	2,810	988	500	3,200	715	376	342	310	129
3	234	1,880	1,310	3,540	956	470	3,400	667	354	287	248	117
4	221	1,090	1,060	3,200	848	1,100	3,620	603	412	272	199	114
5	205	795	1,080	2,690	701	2,600	6,330	559	2,090	326	172	129
6	190	736	1,050	2,240	*661	2,000	9,480	536	1,900	314	161	199
7	184	924	1,250	2,020	892	1,600	6,420	513	1,180	348	153	353
8	175	848	4,280	1,720	760	1,400	4,670	696	878	1,140	140	252
9	175	722	3,060	1,490	670	1,200	3,690	870	715	1,010	132	175
10	178	634	*2,510	1,400	640	1,100	3,000	1,060	553	504	127	156
11	167	609	2,810	1,270	660	1,050	2,510	885	465	354	125	140
12	161	687	2,680	1,140	700	1,050	2,130	701	411	342	252	156
13	156	1,140	9,710	1,030	740	1,000	1,820	622	819	416	241	147
14	153	900	7,340	*932	800	990	1,630	578	6,570	314	236	127
15	150	840	4,760	687	900	960	1,440	542	4,000	252	196	114
16	a156	825	4,080	810	1,100	940	1,310	553	3,690	228	248	105
17	a167	750	5,800	810	880	890	1,220	584	2,690	376	326	100
18	a161	715	4,160	862	800	770	1,220	654	2,080	665	218	100
19	a150	687	3,330	1,080	740	670	2,510	565	1,630	1,050	172	95
20	a150	708	2,810	980	700	760	3,040	470	1,220	1,600	153	93
21	a147	940	2,460	715	670	880	2,290	420	972	747	140	91
22	a140	1,080	2,130	722	660	1,220	2,020	402	788	502	132	84
23	140	964	1,870	1,790	650	1,720	1,770	562	660	393	119	82
24	145	900	1,630	2,260	640	2,950	1,580	916	572	334	117	77
25	145	996	1,440	1,630	640	4,670	1,440	708	502	295	117	79
26	145	900	1,360	1,770	640	3,470	1,270	553	420	262	156	77
27	145	840	1,360	1,540	640	2,940	1,140	486	371	234	418	75
28	147	885	3,150	1,400	620	2,940	1,040	449	338	211	450	73
29	142	802	4,850	1,310		2,810	940	420	342	196	259	73
30	164	758	4,670	1,220		2,460	840	376	388	215	184	73
31	228		3,840	1,180		2,290		342		644	158	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,342	269	140	172	0.213	0.25
November	25,675	1,880	299	856	1.06	1.18
December	94,560	9,710	1,050	3,050	3.78	4.36
Calendar year 1940	539,346	15,600	107	1,474	1.83	24.87
January	49,378	3,540	687	1,593	1.97	2.27
February	21,406	1,110	620	764	.947	.99
March	49,980	4,670	470	1,612	2.00	2.31
April	79,370	9,480	840	2,646	3.28	3.66
May	18,779	1,060	342	606	.751	.87
June	37,732	6,570	338	1,258	1.56	1.74
July	14,603	1,600	196	471	.584	.67
August	6,499	450	117	210	.260	.30
September	3,725	353	73	124	.154	.17
Water year 1940-41	407,049	9,710	73	1,115	1.38	18.77

Peak discharge.- Dec. 13 (4 p.m.) 12,500 sec.-ft.; Apr. 6 (2 a.m.) 10,800 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for gage at Cooksburg dam site.
Note.- Stage-discharge relation affected by ice Feb. 8 to Mar. 21.

Clarion River near Piney, Pa.

Location.- Lat. 41°11'30", long. 79°26'00", at hydroelectric plant of Clarion River Power Co., 2 1/2 miles upstream from Piney, Clarion County, and 3 miles southwest of Clarion.

Drainage area.- 951 square miles.

Records available.- October 1933 to September 1941 in reports of U. S. Geological Survey; October 1924 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 17 years, 1,522 second-feet (adjusted for change in reservoir contents).

Remarks.- Discharge computed from powerhouse records. Flow regulated by hydroelectric plant at Piney Dam (reservoir capacity, 1,474,000,000 cubic feet).

Cooperation.- Powerhouse records furnished by Clarion River Power Co.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	289	101	945	3,270	1,190	60	2,360	693	132	477	319	93
2	230	376	1,550	3,530	562	62	3,500	943	597	527	54	274
3	244	1,380	1,280	4,420	1,180	1,210	4,020	701	531	741	62	335
4	272	965	917	3,900	902	2,110	4,180	259	1,250	120	279	230
5	159	870	1,160	2,220	667	2,260	5,080	828	2,870	243	426	282
6	109	677	1,110	2,220	541	1,960	8,850	642	2,770	262	84	406
7	257	744	1,890	2,180	1,320	2,210	6,300	432	1,400	321	67	53
8	270	1,140	3,560	2,010	671	2,430	5,870	1,090	622	1,340	55	295
9	227	324	3,520	1,480	361	484	4,110	1,080	923	1,350	56	698
10	151	805	3,340	1,420	7,350	1,280	3,430	1,060	790	693	87	475
11	144	625	2,660	1,540	921	1,660	3,480	400	586	543	88	237
12	125	899	2,900	751	636	1,290	2,610	959	889	298	1,030	146
13	62	862	7,990	907	996	1,080	1,030	642	1,040	137	85	52
14	176	894	7,270	797	1,180	844	1,720	474	6,710	369	433	51
15	338	1,720	5,040	725	1,490	1,680	1,820	923	4,420	314	915	164
16	269	385	4,620	782	730	544	1,370	648	4,100	352	815	287
17	128	241	5,520	1,550	1,160	1,250	1,140	384	3,150	1,170	58	113
18	154	874	4,330	1,120	1,010	861	962	365	2,660	693	341	54
19	149	635	3,950	733	1,030	453	2,940	770	2,010	1,450	460	53
20	147	863	3,920	1,290	787	697	2,880	766	2,240	1,230	167	54
21	268	853	2,850	706	898	1,140	2,580	611	812	666	178	0
22	227	1,510	1,510	834	130	2,320	2,000	630	430	454	345	170
23	167	876	1,630	2,240	0	1,730	1,990	1,600	842	458	102	267
24	159	291	1,080	2,430	961	3,660	1,410	150	680	470	62	195
25	765	979	1,780	1,860	1,130	4,590	1,080	84	526	524	237	185
26	59	1,660	1,920	1,010	512	3,920	1,260	864	624	531	781	53
27	59	1,700	1,810	1,590	528	3,370	780	774	693	181	447	53
28	218	60	4,070	1,800	889	3,210	1,100	599	222	716	716	54
29	359	712	4,590	1,320		3,920	671	644	157	712	937	192
30	274	863	4,580	1,260		2,120	947	160	580	789	73	609
31	249		3,960	1,240		2,930		460		397	60	

Month	Observed				Change in contents / (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	6,704	765	59	216	-52	164	0.172	0.20
November	24,884	1,720	60	830	+26	856	.899	1.00
December	97,452	7,990	917	3,144	+55	3,199	3.36	3.87
Calendar year 1940	573,472	14,900	59	1,567	+4	1,571	1.65	22.49
January	53,135	4,420	706	1,714	-2	1,712	1.80	2.08
February	29,732	7,350	0	1,062	-18	1,044	1.10	1.15
March	57,235	4,590	60	1,846	+32	1,878	1.98	2.28
April	81,470	8,850	671	2,716	+16	2,732	2.87	3.20
May	20,635	1,600	84	666	-16	650	.683	.79
June	45,256	6,710	132	1,508	+20	1,528	1.61	1.80
July	18,528	1,450	120	598	-41	557	.586	.68
August	9,819	1,030	54	317	+41	358	.376	.43
September	6,130	698	0	204	-41	163	.171	.19
Water year 1940-41	450,980	8,850	0	1,236	-3	1,233	1.30	17.67

/ Change in contents in Piney Reservoir.

Redbank Creek at St. Charles, Pa.

Location.- Water-stage recorder, lat. 40°59'40", long. 79°23'40", 500 feet downstream from industrial railroad bridge at St. Charles, Clarion County, 0.3 mile downstream from Leatherwood Creek, and 3 miles west of New Bethlehem. Datum of gage is 973.14 feet above mean sea level, adjustment of 1907.

Drainage area.- 528 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1909 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 28 years (1910-14, 1915-16, 1918-41), 870 second-feet.

Extremes.- Maximum discharge during year, 6,260 second-feet Aug. 15 (gage height, 8.81 feet), from rating curve extended above 2,800 second-feet; minimum, 55 second-feet Oct. 27 (gage height, 1.86 feet).
1909-41: Maximum discharge, 35,200 second-feet Mar. 18, 1936 (gage height, 18.60 feet, from floodmarks, site and datum then in use), by slope-area method; minimum observed, 10 second-feet Aug. 9, 1910.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	100	918	1,680	450	230	1,190	206	189	160	956	418
2	88	352	*1,160	1,640	480	260	1,510	195	220	136	545	343
3	83	485	782	2,560	440	329	1,560	182	292	118	380	289
4	78	376	480	2,150	370	2,240	1,430	172	1,090	134	286	268
5	76	265	530	1,560	320	2,190	2,960	164	4,880	140	232	277
6	71	247	500	1,230	280	1,640	4,350	155	2,600	132	186	570
7	69	277	921	*880	*466	*1,160	3,160	162	1,420	121	155	547
8	68	299	2,590	720	393	945	2,350	206	685	218	132	380
9	67	265	1,860	680	290	730	1,730	247	710	426	121	286
10	66	238	1,430	610	270	660	1,350	256	538	250	114	283
11	66	223	1,510	520	270	738	1,080	238	432	162	103	280
12	65	271	1,430	460	280	685	912	203	366	132	584	271
13	65	393	3,350	440	320	587	765	174	557	114	488	232
14	60	373	2,680	340	485	587	660	162	1,570	106	286	179
15	62	343	1,960	280	794	635	592	157	1,120	96	2,360	155
16	62	356	1,970	330	850	710	530	203	1,010	106	3,950	138
17	59	350	*2,620	418	765	685	493	247	820	350	1,560	129
18	60	324	1,600	530	620	477	466	268	710	230	842	118
19	60	314	1,560	555	500	477	436	232	685	2,240	615	106
20	62	318	1,230	380	380	625	414	192	497	1,340	501	98
21	63	370	1,040	310	*320	897	390	164	393	629	393	88
22	64	421	912	350	290	1,440	353	146	327	400	318	88
23	67	390	765	990	260	2,100	324	225	277	302	262	84
24	64	376	650	1,000	250	2,940	324	265	238	241	220	82
25	61	404	564	840	240	3,460	324	220	206	203	282	78
26	59	400	525	760	230	2,510	302	179	179	169	3,280	74
27	58	407	525	680	220	1,960	274	155	163	142	2,510	70
28	60	462	2,330	600	230	1,820	253	142	138	129	1,640	68
29	62	407	2,970	540		1,680	235	146	136	118	965	67
30	79	400	2,730	500		1,390	220	270	140	1,000	660	65
31	83		2,150	490		1,190		217		2,170	513	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,103	96	58	67.8	0.128	0.15
November	10,206	485	100	340	.644	.72
December	46,242	3,350	480	1,492	2.83	3.26
Calendar year 1940	311,130	11,100	57	850	1.61	21.91
January	25,023	2,560	280	807	1.53	1.76
February	11,063	850	220	395	.748	.78
March	37,977	3,460	230	1,225	2.32	2.67
April	30,937	4,350	220	1,031	1.95	2.18
May	6,150	270	142	198	.375	.43
June	22,578	4,880	136	753	1.43	1.60
July	12,214	2,240	96	394	.746	.86
August	25,439	3,950	103	821	1.55	1.79
September	6,131	570	65	204	.386	.43
Water year 1940-41	236,063	4,880	58	647	1.23	16.63

Peak discharge.- June 5 (9:30 a.m.) 5,880 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 7-16, Jan. 20 to Feb. 6, Feb. 9-13, Feb. 19 to Mar. 2, Mar. 9, 10.

Mahoning Creek at Punxsutawney, Pa.

Location.- Water-stage recorder, lat. 40°56'25", long. 78°58'20", 500 feet upstream from highway bridge at Punxsutawney, Jefferson County, 1 mile downstream from Elk Run, and 1 mile upstream from Sawmill Run. Datum of gage is 1,219.44 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 149 square miles.

Records available.- October 1938 to September 1941.

Extremes.- Maximum discharge during year, 3,830 second-feet Aug. 15 (gage height, 7.42 feet); minimum, 20 second-feet (regulated) Oct. 23, 24, 28 (gage height, 0.79 foot); minimum daily, 27 second-feet Aug. 9, 10.
1938-41: Maximum discharge, 5,030 second-feet Mar. 31, 1940 (gage height, 8.86 feet); minimum, 2.6 second-feet (regulated) Sept. 26, 1939 (gage height, 0.50 foot); minimum daily, 12 second-feet Oct. 19, 1939.
Maximum stage known, 15.6 feet Mar. 18, 1936, from floodmark (discharge not determined).

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair. Considerable regulation at low flow by mine pumps three-quarters of a mile upstream.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	55	271	421	130	100	340	87	128	56	56	144
2	61	273	287	443	120	100	435	78	182	48	40	121
3	55	176	249	623	110	109	421	78	121	48	36	104
4	50	121	160	497	110	964	414	75	492	60	32	134
5	104	100	165	399	120	486	1,350	72	1,060	58	30	247
6	86	136	160	*347	140	353	1,200	69	662	48	32	458
7	69	121	489	275	110	270	849	69	359	50	28	208
8	71	107	843	238	110	254	623	78	298	78	28	156
9	69	96	545	200	130	223	481	84	204	60	27	132
10	65	90	473	180	*140	*195	379	90	164	46	27	128
11	62	84	481	160	130	195	315	72	140	40	30	136
12	62	133	429	140	130	186	275	66	121	43	156	100
13	46	128	1,060	130	140	164	244	60	121	38	53	87
14	35	118	746	120	198	150	223	60	118	34	36	78
15	36	156	521	110	321	170	204	60	118	34	1,400	69
16	33	148	765	120	259	190	186	90	144	34	1,750	66
17	34	144	790	132	200	190	182	a110	162	50	496	60
18	34	128	*561	168	160	160	160	a95	317	36	265	58
19	34	128	443	148	140	180	152	a75	174	123	204	53
20	39	136	372	130	130	220	140	a64	128	69	156	50
21	38	152	321	130	*120	286	128	a54	114	46	121	48
22	34	148	270	175	110	486	124	63	104	38	96	48
23	34	136	228	280	100	671	118	87	87	34	87	43
24	31	148	200	228	100	861	132	75	87	34	75	43
25	32	144	186	190	96	871	118	63	75	34	137	40
26	36	128	182	170	94	584	107	56	69	30	1,680	40
27	32	167	182	150	93	465	104	58	63	30	938	36
28	30	168	917	140	*97	443	96	56	60	28	465	36
29	30	152	852	130		414	90	84	58	38	287	36
30	67	140	760	120		340	84	229	63	66	213	36
31	58		537	120		310		121		96	172	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,525	104	30	49.2	0.330	0.38
November	4,061	273	55	135	.906	1.01
December	14,445	1,060	160	466	3.13	3.61
Calendar year 1940	97,215	4,170	30	266	1.79	24.26
January	6,814	623	110	220	1.48	1.71
February	3,838	321	93	137	.919	.96
March	10,590	964	100	342	2.30	2.65
April	9,674	1,350	84	322	2.16	2.41
May	2,478	229	54	79.9	.536	.62
June	5,993	1,060	58	200	1.34	1.50
July	1,527	123	28	49.3	.331	.38
August	9,153	1,750	27	295	1.98	2.28
September	2,995	458	36	99.8	.670	.75
Water year 1940-41	73,093	1,750	27	200	1.34	18.26

Peak discharge.- Aug. 26 (8 a.m.) 2,500 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations at Mahoning Creek Dam and Little Mahoning Creek at McCormick.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 9-16, 20, 21, Jan. 25 to Feb. 13, Feb. 17 to Mar. 2, Mar. 14-20.

Mahoning Creek Reservoir at Mahoning Creek Dam, Pa.

Location.- Water-stage recorder, lat. 40°55'18", long. 79°16'41", at control house at Mahoning Creek Dam, Armstrong County, 0.7 mile upstream from Camp Run, 1.5 miles south of Eddyville, and 3.0 miles upstream from Pine Run. Datum of gage is mean sea level, Corps of Engineers, U. S. Army, datum, which is 2.07 feet below sea level datum of 1929.

Drainage area.- 340 square miles.

Records available.- June to September 1941.

Extremes.- Maximum contents during period, 8,416 acre-feet Aug. 14 (water-surface elevation, 1,093.86 feet); minimum, 2,425 acre-feet June 15 (water-surface elevation, 1,060.25 feet).

Remarks.- Reservoir is formed by a concrete dam which was accepted from the contractor June 2, 1941; storage began during construction prior to date of first record, June 15, 1941. Capacity, 74,060 acre-feet between elevations 1,015.33 feet (sill of outlet gates) and 1,162.00 feet (full pool); dead storage, 130 acre-feet. Elevation of conservation pool, the minimum elevation to which pool will ordinarily be drawn, is 1,075.00 feet (capacity, 4,475 acre-feet). Reservoir is used for flood-control purposes.

Cooperation.- Records furnished by Corps of Engineers, U. S. Army.

Contents, at midnight, in acre-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										3,780	3,755	5,102
2										3,785	3,696	5,242
3										3,765	3,667	4,625
4										3,808	3,623	3,427
5										3,872	3,560	3,299
6										3,901	3,491	3,661
7										3,907	3,417	3,436
8										3,998	3,380	3,872
9										4,151	3,404	4,127
10										4,152	3,441	4,246
11										4,130	3,506	4,668
12										4,112	3,866	4,939
13										4,087	4,087	4,935
14										4,039	4,087	4,954
15									2,471	3,995	6,154	4,926
16									2,701	3,996	8,042	4,863
17									3,074	3,990	5,129	4,776
18									3,879	3,985	3,757	4,729
19									3,935	4,067	3,526	4,774
20									4,292	4,085	3,497	4,794
21									4,484	3,949	3,799	4,801
22									4,571	3,765	3,957	4,799
23									4,597	3,622	4,034	4,790
24									4,549	3,578	4,043	4,774
25									4,512	3,520	4,067	4,751
26									4,407	3,461	4,796	4,718
27									4,278	3,387	5,568	4,677
28									4,130	3,354	4,585	4,631
29									3,972	3,355	3,840	4,582
30									3,832	3,572	4,458	4,524
31										3,777	4,852	

Monthly elevation and contents, June to September 1941

Date	Elevation (feet) /	Contents (acre-feet)	Change in contents during month (acre-feet)
June 15	1,060.71	2,471	
June 30	1,071.17	3,832	
July 31	1,070.82	3,777	-55
Aug. 31	1,077.12	4,852	+1,075
Sept. 30	1,075.28	4,524	-328
Water year 1940-41	-	-	+4,524

/ Elevation at midnight.

Mahoning Creek at Mahoning Creek Dam, Pa.

Location.- Water-stage recorder, lat. 40°55'40", long. 79°17'30", at highway bridge at McCrea Furnace, three-quarters of a mile downstream from Mahoning Creek Dam, Armstrong County, 1 mile southwest of Eddyville, and 2 miles upstream from Pine Run. Datum of gage is 1,003.39 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 344 square miles.

Records available.- August 1938 to September 1941.

Extremes.- Maximum discharge during year, 3,640 second-feet Apr. 5; maximum gage height, 6.16 feet Mar. 4 (ice jam); minimum discharge (regulated), 12 second-feet May 29 (gage height, 1.02 feet); minimum daily discharge (regulated), 23 second-feet July 29.
1938-41: Maximum discharge, 9,300 second-feet Mar. 31, 1940 (gage height, 7.83 feet); minimum (regulated), that of May 29, 1941; minimum daily, 16 second-feet Oct. 15-17, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair. Subsequent to June 4, 1941, flow completely regulated by Mahoning Creek Reservoir (see page 159); slight regulation prior to that date by construction operations at Mahoning Creek Dam. Records represent flow past gage; no corrections made for change in contents in Mahoning Creek Reservoir.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	112	600	1,110	300	180	761	144	124	127	163	172
2	76	396	908	1,020	270	190	898	139	129	84	131	175
3	75	524	672	1,600	240	222	914	129	117	84	80	472
4	68	294	390	1,400	200	1,980	850	124	644	86	80	914
5	62	222	440	998	190	1,900	2,240	119	1,140	84	80	568
6	60	234	400	783	220	1,270	3,020	117	1,290	84	80	627
7	58	274	624	*646	280	*954	2,040	117	1,280	86	80	800
8	56	234	1,950	554	230	726	1,520	126	869	84	66	160
9	56	198	1,320	474	210	657	1,180	150	484	82	36	176
10	54	172	998	437	190	593	946	152	600	84	24	285
11	53	165	*1,050	391	200	551	775	147	169	84	24	168
12	50	194	885	339	210	533	650	119	169	84	49	141
13	50	261	1,800	270	282	474	557	108	175	84	86	211
14	48	238	1,660	220	*447	420	491	106	733	84	87	175
15	48	257	1,210	200	842	500	441	102	673	84	570	181
16	48	326	1,300	210	818	650	402	122	158	94	3,090	168
17	46	303	1,770	253	646	660	370	160	163	87	2,940	172
18	46	278	1,300	330	502	430	331	163	351	86	1,600	149
19	45	261	*1,020	367	362	500	306	144	546	157	712	87
20	49	261	848	224	270	600	282	114	172	172	538	87
21	52	278	734	212	230	720	255	102	175	169	166	87
22	53	290	614	268	200	1,230	234	102	178	166	166	87
23	49	269	514	596	190	1,580	216	111	178	135	166	140
24	48	269	442	634	180	1,980	223	124	178	78	166	83
25	48	326	391	543	170	2,240	238	106	175	78	169	83
26	45	290	372	450	170	1,630	205	77	175	80	1,410	74
27	44	345	386	390	170	1,280	185	75	175	80	1,650	82
28	46	469	1,520	360	175	1,170	169	86	172	65	1,270	82
29	44	367	2,080	340		1,080	160	62	172	23	1,220	83
30	61	348	1,770	310		914	152	90	169	55	166	82
31	112		1,450	280		789		122		458	172	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,743	112	44	56.2	0.163	0.19
November	8,455	524	112	282	.820	.91
December	31,418	2,080	372	1,013	2.94	3.39
Calendar year 1940	213,279	8,630	44	584	1.70	23.04
January	16,209	1,600	200	523	1.52	1.75
February	8,394	842	170	300	.872	.91
March	28,603	2,240	180	923	2.68	3.09
April	21,011	3,020	152	700	2.03	2.26
May	3,659	163	62	118	.343	.40
June	11,733	1,290	117	391	1.14	1.27
July	3,288	458	23	106	.308	.36
August	17,237	3,090	24	556	1.62	1.87
September	6,771	914	74	226	.657	.73
Water year 1940-41	158,521	3,090	23	434	1.26	17.13

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 13-16, Jan. 26 to Feb. 12, Feb. 20 to Mar. 2, Mar. 14-21.

Little Mahoning Creek at McCormick, Pa.

Location.- Water-stage recorder, lat. 40°50'10", long. 79°06'35", 200 feet downstream from highway bridge at McCormick, Indiana County, 1 mile west of Georgeville, 1.7 miles upstream from Ross Run, and 4 miles southeast of Smicksburg. Datum of gage is 1,164.88 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 87.4 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge during year, 1,320 second-feet Aug. 15; maximum gage height, 11.94 feet Mar. 4 (ice jam); minimum discharge, 0.9 second-foot Aug. 9 (gage height, 1.57 feet); minimum daily discharge, 1.2 second-feet Aug. 9.
1939-41: Maximum discharge, 3,480 second-feet Mar. 31, 1940; maximum gage height, that of Mar. 4, 1941; minimum discharge, that of Aug. 9, 1941; minimum daily discharge, that of Aug. 9, 1941.

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12.5	19.5	235	266	78	56	176	23	33	10.5	15.5	38
2	11.0	178	229	309	72	70	224	23	49	9.3	8.6	30
3	10.5	102	155	558	68	90	198	20	32	9.7	5.6	24
4	8.0	60	100	364	75	800	178	18.0	199	18.5	3.8	77
5	7.4	45	105	242	87	456	920	17.5	801	23	2.9	155
6	6.8	65	100	170	90	302	702	17.5	382	13.0	2.2	244
7	6.2	59	319	120	60	202	402	17.0	200	12.0	1.7	124
8	6.5	49	498	*115	70	166	304	31	149	47	1.3	85
9	6.5	40	287	105	79	144	222	31	98	27	1.2	63
10	6.5	33	229	88	*61	*119	170	32	72	15.0	1.3	74
11	6.5	32	254	78	57	121	138	24	54	11.0	2.3	61
12	5.6	52	209	82	68	113	113	20	42	10.5	61	44
13	5.6	61	612	76	90	96	96	18.0	43	9.7	22	34
14	5.0	49	364	62	200	84	85	16.0	42	7.2	8.9	27
15	5.0	78	251	53	650	94	75	16.0	48	6.9	447	23
16	5.3	83	392	54	460	115	68	22	67	6.6	576	19.5
17	5.0	72	386	56	300	115	64	25	80	5.6	186	16.5
18	5.3	63	*263	68	200	90	56	27	174	5.9	103	14.5
19	5.6	66	201	100	125	105	57	20	105	9.7	89	12.5
20	6.5	66	169	90	*105	135	50	15.5	71	7.2	81	11.0
21	6.5	70	142	84	90	217	48	13.5	52	5.6	50	10.0
22	7.1	65	119	130	80	355	41	12.0	40	4.1	35	8.9
23	6.5	56	97	396	74	449	36	13.0	31	3.1	28	8.6
24	6.2	72	83	202	68	567	49	13.0	25	2.7	23	7.9
25	5.6	87	76	150	63	598	44	11.5	21	3.1	33	7.6
26	5.3	66	80	110	60	373	36	9.7	16.5	2.6	210	6.6
27	5.0	109	87	90	58	291	32	8.9	13.5	1.8	267	6.6
28	4.8	116	777	84	57	275	30	11.0	12.5	1.7	130	5.6
29	5.0	96	584	74		247	27	13.0	10.5	1.3	85	4.8
30	22	86	528	78		189	25	55	11.0	8.1	64	4.8
31	30		350	84		160		44		39	49	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	241.3	30	4.8	7.78	0.089	0.10
November	2,095.5	178	19.5	69.8	.799	.89
December	8,281	777	76	267	3.05	3.52
Calendar year 1940	50,430.7	2,400	2.6	138	1.58	21.45
January	4,538	558	53	146	1.67	1.93
February	3,545	650	57	127	1.45	1.51
March	7,194	800	56	232	2.65	3.06
April	4,666	920	25	156	1.78	1.99
May	638.1	55	8.9	20.6	.236	.27
June	2,974.0	801	10.5	99.1	1.13	1.26
July	338.4	47	1.3	10.9	.125	.14
August	2,594.3	576	1.2	83.7	.958	1.10
September	1,248.4	244	4.8	41.6	.476	.53
Water year 1940-41	38,354.0	920	1.2	105	1.20	16.30

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 6-22, Jan. 25 to Mar. 4, Mar. 14-20.

Crooked Creek at Idaho, Pa.

Location.- Water-stage recorder, lat. 40°39'15", long. 79°21'00", at highway bridge at Idaho, Armstrong County, 1¼ miles downstream from Plum Creek and 2½ miles west of Shelocta. Datum of gage is 961.04 feet above mean sea level (Buffalo, Rochester & Pittsburgh Railway bench mark).

Drainage area.- 191 square miles.

Records available.- February 1938 to September 1941.

Extremes.- Maximum discharge during year, 2,320 second-feet Mar. 4 (gage height, 5.90 feet); minimum, 7.4 second-feet Aug. 11 (gage height, 0.49 foot); minimum daily, 8.3 second-feet Aug. 9.
1938-41: Maximum discharge, 7,170 second-feet June 22, 1939 (gage height, 11.40 feet); minimum, 2.4 second-feet Oct. 8, 1939; minimum daily, 2.8 second-feet Oct. 8, 1939.
Maximum stage known, 18.6 feet March 1936, from floodmark (discharge not determined).

Remarks.- Records good except those for periods of ice effect and those for periods of no gage-height record, all of which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16.0	34	652	625	155	120	185	50	40	23	22	31
2	15.0	267	625	761	140	130	177	48	a64	25	14.0	25
3	13.5	176	396	1,310	130	153	154	42	a51	22	12.0	19.0
4	12.5	109	247	870	120	1,720	149	38	a300	52	10.5	52
5	12.5	85	242	518	140	861	1,660	38	a870	52	9.4	188
6	12.0	114	167	362	155	525	1,470	37	a560	28	8.8	239
7	9.9	97	389	240	130	378	861	37	a330	27	8.8	132
8	9.9	83	702	*205	125	320	565	50	a220	54	8.8	95
9	12.5	71	472	180	125	279	417	52	136	35	8.3	69
10	12.0	62	365	150	130	*212	323	46	97	24	8.8	112
11	13.5	60	293	125	135	279	256	38	78	20	8.3	95
12	a13.5	76	256	125	*155	338	209	35	64	31	8.8	64
13	a10.5	71	570	110	407	307	177	33	76	24	9.4	50
14	a10.0	64	490	92	752	490	159	31	83	18.0	9.4	40
15	a10.0	92	384	84	798	625	139	31	83	19.0	193	35
16	a10.5	109	578	88	565	665	129	58	226	23	236	28
17	a10.0	102	645	120	441	440	122	64	215	19.0	71	23
18	a10.0	97	469	170	296	340	112	58	239	17.0	38	22
19	a10.0	87	*356	185	200	290	124	40	164	18.0	40	20
20	a10.0	85	302	150	160	310	107	33	116	15.0	54	19.0
21	a16.0	87	245	145	140	404	99	27	90	14.0	31	17.0
22	a17.0	85	198	170	130	508	85	28	74	12.0	22	16.0
23	16.0	76	167	375	120	522	78	30	58	11.0	18.0	14.0
24	15.0	101	139	280	115	625	95	27	50	10.5	15.0	14.0
25	14.0	129	126	205	110	665	83	24	40	16.5	18.0	12.5
26	13.5	125	134	180	110	486	74	22	33	13.5	170	12.0
27	13.5	504	129	170	110	390	67	19.0	28	12.0	389	11.0
28	12.0	508	1,080	160	115	338	62	17.0	24	10.5	116	12.5
29	12.5	350	1,280	150		293	58	17.0	22	9.9	67	12.0
30	52	259	1,220	140		231	54	62	24	13.0	48	12.0
31	48		870	145		204		46		28	38	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	463.3	52	9.9	14.9	0.078	0.09
November	4,165	508	34	139	.728	.81
December	14,188	1,280	126	458	2.40	2.77
Calendar year 1940	106,510.8	4,620	9.9	291	1.52	20.75
January	8,590	1,310	84	277	1.45	1.67
February	6,209	798	110	222	1.16	1.21
March	13,448	1,720	120	434	2.27	2.62
April	8,250	1,660	54	275	1.44	1.61
May	1,178.0	64	17.0	38.0	.199	.23
June	4,455	870	22	148	.775	.86
July	696.9	54	9.9	22.5	.118	.14
August	1,711.3	389	8.3	55.2	.289	.33
September	1,491.0	239	11.0	49.7	.260	.29
Water year 1940-41	64,845.5	1,720	8.3	178	.932	12.63

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station on Little Mahoning Creek at McCormick.
Note.- Backwater from leaves Oct. 1 to Nov. 2; discharge computed on basis of one discharge measurement, gage heights, and records for Little Mahoning Creek at McCormick. Stage-discharge relation affected by ice Jan. 7-22, Jan. 24 to Feb. 12, Feb. 19 to Mar. 2, Mar. 17-20.

Crooked Creek Reservoir at Crooked Creek Dam, Pa.

Location.- Water-stage recorder, lat. 40°42'50", long. 79°30'30", at control tower at Crooked Creek Dam, Armstrong County, 4 miles south of Ford City and 7 miles upstream from mouth. Datum of gage is mean sea level, Corps of Engineers, U. S. Army, datum, which is 2.07 feet below sea level datum of 1929.

Drainage area.- 278 square miles.

Records available.- May 1940 to September 1941.

Extremes.- Maximum contents during year, 9,994 acre-feet Mar. 5 (water-surface elevation, 851.82 feet); minimum, 3,820 acre-feet Dec. 23 (water-surface elevation, 838.03 feet).
1940-41: Maximum contents, that of Mar. 5, 1941; minimum, 1,728 acre-feet Aug. 17, 1940 (water-surface elevation, 830.39 feet).

Remarks.- Reservoir is formed by an earth-fill dam, rock faced; storage began in May 1940; dam accepted from contractor Oct. 28, 1940. Capacity, 90,060 acre-feet between elevations 809.00 feet (sill of outlet) and 918.00 feet (crest of spillway). Elevation of conservation pool, the minimum elevation to which pool will ordinarily be drawn, is 840.00 feet. Reservoir is used for flood-control purposes.

Cooperation.- Records furnished by Corps of Engineers, U. S. Army.

Contents, at midnight, in acre-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,562	4,706	5,334	5,858	5,143	5,512	4,388	4,540	4,880	4,150	5,176	6,667
2	4,566	5,375	5,360	5,710	5,278	5,383	4,383	4,536	4,506	5,109	4,183	6,538
3	4,569	5,894	5,187	6,560	5,250	5,470	4,614	4,500	5,228	4,220	5,176	6,404
4	4,558	6,169	4,669	5,375	4,972	9,179	4,451	4,521	5,758	4,332	5,158	6,316
5	4,543	6,295	4,632	4,688	4,828	9,413	6,595	4,543	8,146	4,472	5,132	6,529
6	4,525	6,236	4,762	4,195	4,906	7,735	7,750	4,554	9,436	4,566	5,102	6,846
7	4,521	6,139	5,220	4,167	5,006	5,830	7,177	4,588	9,628	4,684	5,072	6,998
8	4,510	5,994	6,582	4,132	5,043	4,961	5,874	4,636	9,551	4,824	5,039	7,031
9	4,486	5,814	7,036	4,384	5,024	5,028	5,128	4,710	9,134	4,917	5,010	7,003
10	4,461	5,607	6,437	4,503	4,954	4,898	4,969	4,758	8,555	4,943	4,991	7,148
11	4,440	5,413	5,501	4,614	4,921	4,943	4,606	4,784	7,961	4,965	4,965	7,087
12	4,422	5,250	4,747	4,595	4,991	5,198	4,551	4,795	7,341	5,039	4,954	6,881
13	4,408	5,080	5,337	4,603	5,410	5,334	4,732	4,802	6,771	5,084	4,924	6,626
14	4,380	4,887	5,866	4,454	6,022	5,886	4,832	4,806	6,278	5,087	4,891	6,345
15	4,370	4,858	6,114	4,528	6,767	6,437	4,880	4,832	5,770	5,120	5,261	6,059
16	4,300	4,976	6,692	4,676	6,525	6,366	4,873	4,913	5,493	5,154	5,945	5,758
17	4,254	5,054	7,064	4,880	5,906	5,600	4,847	4,901	5,391	5,191	6,169	5,451
18	4,240	5,135	6,450	5,258	5,307	4,688	4,788	5,024	5,467	5,209	6,269	5,220
19	4,237	5,172	5,782	5,318	5,497	4,639	4,751	5,002	5,527	5,235	6,341	5,080
20	4,230	5,209	5,024	4,973	5,622	4,751	4,666	4,943	5,451	5,246	6,379	4,954
21	4,226	5,246	4,610	4,824	5,710	5,139	4,562	4,880	5,296	5,246	6,324	4,843
22	4,244	5,280	4,076	4,976	5,750	5,550	4,468	4,806	5,095	5,232	6,236	4,754
23	4,237	5,284	3,884	5,307	5,750	5,634	4,496	4,739	4,854	5,217	6,122	4,684
24	4,226	5,299	3,932	5,307	5,722	5,742	4,547	4,654	4,665	5,198	6,006	4,606
25	4,220	5,425	3,936	5,444	5,730	5,998	4,584	4,562	4,547	5,176	5,906	4,554
26	4,244	5,630	3,950	5,387	5,670	5,834	4,595	4,506	4,412	5,154	5,922	4,525
27	4,262	6,459	4,006	5,169	5,678	5,398	4,584	4,478	4,286	5,132	6,762	4,496
28	4,254	6,714	5,588	4,847	5,619	4,984	4,558	4,461	4,212	5,109	6,942	4,468
29	4,296	6,181	7,304	4,640		4,695	4,566	4,558	4,174	5,091	6,956	4,444
30	4,380	5,451	7,886	4,843		4,262	4,558	4,640	4,150	5,117	6,877	4,430
31	4,536		7,125	5,024		4,195		4,769		5,150	6,767	

Monthly elevation and contents, water year October 1940 to September 1941

Date	Elevation (feet) ✓	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	840.13	4,558	
Oct. 31	840.07	4,536	-22
Nov. 30	842.53	5,451	+915
Dec. 31	846.50	7,125	+1,674
Calendar year 1940	-	-	+7,125
Jan. 31	841.39	5,024	-2,101
Feb. 28	842.97	5,619	+595
Mar. 31	839.10	4,195	-1,424
Apr. 30	840.13	4,558	+363
May 31	840.60	4,769	+211
June 30	838.97	4,150	-619
July 31	841.73	5,150	+1,000
Aug. 31	845.72	6,767	+1,617
Sept. 30	839.77	4,430	-2,337
Water year 1940-41	-	-	-128

✓ Elevation at midnight.

Crooked Creek at Crooked Creek Dam, Pa.

Location.- Water-stage recorder, lat. 40°43'10", long. 79°30'45", a quarter of a mile downstream from Crooked Creek Dam, Armstrong County, 3½ miles south of Ford City, and 6½ miles upstream from mouth. Datum of gage is 799.51 feet (revised) above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 278 square miles.
Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. October 1909 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Records prior to January 1940 obtained at sites 1½ and 3½ miles downstream.
Average discharge.- 30 years (1910-13, 1914-41), 428 second-feet (adjusted for change in contents in Crooked Creek Reservoir).
Extremes.- Maximum discharge during year (regulated), 2,920 second-feet Jan. 3 (gage height, 5.62 feet); minimum (regulated), 5.0 second-feet Oct. 28, Oct. 30 to Nov. 1 (gage height, 0.50 foot).
1909-41: Maximum discharge, 21,000 second-feet Mar. 18, 1936 (gage height, 17.86 feet, from floodmark, site and datum then in use), by contracted-opening method; minimum observed, 0.1 second-foot Sept. 11, 25, 26, 1932.
Remarks.- Records fair. Flow regulated by Crooked Creek Reservoir (see page 163).
Cooperation.- Record of contents in Crooked Creek Reservoir and results of four discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	14	798	1,610	200	203	184	d77	22	32	23	107
2	23	24	804	1,070	200	200	184	d77	22	24	22	107
3	23	23	709	1,370	261	200	187	d55	22	6.0	22	109
4	24	23	588	1,930	315	488	311	d38	54	6.0	22	104
5	24	86	396	1,100	217	1,220	874	d38	96	6.0	22	107
6	24	217	183	787	179	1,730	1,610	d38	131	6.0	22	107
7	24	217	210	371	190	1,610	1,610	d38	305	6.0	22	107
8	24	217	214	307	194	957	1,580	d38	414	6.0	22	107
9	24	214	432	184	194	392	1,030	d38	418	13	22	107
10	24	214	850	193	194	392	564	d38	414	23	22	163
11	24	210	910	170	194	392	559	d38	409	22	22	220
12	24	210	784	194	167	392	335	d39	401	24	22	220
13	24	210	405	187	163	392	177	d39	396	24	22	220
14	25	207	414	184	404	401	180	d39	396	25	22	220
15	21	128	418	118	808	600	177	d36	392	26	29	217
16	49	88	423	91	1,000	1,000	184	d36	388	25	22	214
17	34	96	737	114	1,000	1,310	187	d51	384	25	22	210
18	18	87	1,000	194	728	962	187	66	267	25	22	154
19	17	a91	880	293	210	564	187	66	203	26	22	96
20	17	a91	837	396	195	472	187	66	200	25	49	86
21	16	a91	574	228	207	384	187	66	200	25	80	75
22	9.0	a92	559	177	214	478	158	64	200	25	80	73
23	20	107	332	282	214	672	91	64	200	25	80	73
24	26	109	180	486	203	774	91	64	158	24	80	73
25	17	109	180	583	203	780	91	64	104	22	80	157
26	5.5	109	180	578	203	786	91	49	104	22	80	24
27	5.5	380	184	578	203	774	91	34	92	24	80	24
28	13	696	430	578	203	689	d84	28	66	25	80	24
29	6.5	834	830	440		559	d77	24	48	23	94	24
30	5.0	816	1,370	203		550	d77	22	37	24	107	21
31	5.0		1,690	202		336		22		24	107	

Month	Observed				Change in contents ½ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	618.5	49	5.0	20.0	-0.4	19.6	0.071	0.08
November	6,010	834	14	200	+15.4	215	.773	.86
December	18,501	1,690	180	597	+27.2	624	2.24	2.58
Calendar year 1940	149,658.5	5,800	5.0	409	+9.8	419	1.51	20.47
January	15,198	1,930	91	490	-34.2	456	1.64	1.89
February	8,663	1,000	163	309	+10.7	320	1.15	1.20
March	20,659	1,730	200	666	-23.2	643	2.31	2.66
April	11,532	1,610	77	384	+6.1	390	1.40	1.56
May	1,452	77	22	46.8	+3.4	50.2	.181	.21
June	6,543	418	22	218	-10.4	208	.748	.83
July	638.0	32	6.0	20.6	+16.3	36.9	.133	.15
August	1,423	107	22	45.9	+26.3	72.2	.260	.30
September	3,550	220	21	118	-39.3	79.0	.284	.32
Water year 1940-41	94,787.5	1,930	5.0	260	- .2	260	.935	12.64

½ Change in contents in Crooked Creek Reservoir; no corrections made for evaporation and seepage losses.
a No gage-height record; discharge computed on basis of record of needle-valve operations.
d Doubtful gage-height record; discharge computed on basis of gage heights and needle-valve operations at Crooked Creek Reservoir.
Note.- Backwater from aquatic vegetation Oct. 1 to Nov. 5, May 15 to Sept. 30; discharge computed on basis of gage heights, six discharge measurements, and record of needle-valve operations.

Stony Creek at Ferndale, Pa.

Location.- Water-stage recorder, lat. 40°17'10", long. 78°55'10", at highway bridge at Ferndale, Cambria County, 0.4 mile downstream from Bens Creek, 1.2 miles upstream from Johnstown city limit, and 5.2 miles upstream from confluence with Little Conemaugh River. Datum of gage is 1,183.84 feet above mean sea level (city of Johnstown datum).
Drainage area.- 451 square miles.
Records available.- December 1938 to September 1941.
Extremes.- Maximum discharge during year, 22,600 second-feet June 5 (gage height, 12.27 feet), from rating curve extended above 12,000 second-feet by logarithmic plotting; minimum (regulated), 19.5 second-feet Sept. 28, 29 (gage height, 1.72 feet); minimum daily (regulated), 21 second-feet Sept. 29.
1938-41: Maximum discharge, 23,900 second-feet Mar. 31, 1940 (gage height, 13.3 feet, from high-water mark), from rating curve extended above 12,000 second-feet by logarithmic plotting; minimum observed (regulated), 12 second-feet Sept. 24, 1939 (gage height, 1.55 feet); minimum daily (regulated, 13 second-feet Sept. 24, 1939.
Maximum discharge known, 58,800 second-feet Mar. 17, 18, 1936 (gage height not determined), by slope-area and contracted-opening methods.
Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation by mine pumpage and several reservoirs upstream (combined capacity of five largest reservoirs, 1,788,000,000 cubic feet.
Cooperation.- Results of one discharge measurement furnished by Corps of Engineers, U. S. Army. Records of diversion and change in reservoir contents furnished by Bethlehem Steel Co. and Johnstown Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	150	350	758	286	175	1,050	161	407	172	166	86
2	44	589	444	961	282	190	1,260	152	1,480	150	107	80
3	42	522	300	1,560	258	230	1,260	145	684	375	75	69
4	40	272	210	1,130	207	1,300	1,260	137	3,970	781	61	63
5	36	184	270	766	185	967	6,020	132	15,800	659	53	96
6	33	194	243	652	220	660	4,270	124	5,520	391	48	274
7	33	194	330	530	270	506	2,640	122	2,220	381	47	166
8	38	158	812	506	*255	433	1,840	161	1,090	412	41	107
9	41	139	618	477	235	417	1,390	184	758	306	42	82
10	46	129	624	449	260	391	1,080	224	586	225	38	69
11	36	124	974	*396	230	422	850	187	466	189	37	75
12	32	151	*788	357	300	386	729	152	599	187	114	55
13	54	175	1,510	325	390	362	652	137	1,610	206	90	49
14	32	158	1,290	270	450	424	586	124	1,320	150	61	43
15	30	248	899	250	680	548	524	122	891	136	490	39
16	29	258	1,040	250	540	708	477	170	915	126	460	37
17	28	210	1,370	274	400	625	449	381	1,270	338	182	35
18	31	184	924	402	280	402	407	325	3,510	304	115	33
19	32	178	722	381	210	*449	376	228	1,700	180	180	31
20	36	207	672	250	*200	462	338	175	1,040	133	286	31
21	39	243	652	230	200	842	303	158	744	111	174	29
22	39	221	567	303	200	1,400	270	151	580	94	120	25
23	43	187	494	778	185	1,900	254	262	472	84	111	26
24	40	204	422	752	180	2,360	286	228	402	80	86	26
25	38	303	391	524	190	2,290	270	178	329	75	121	25
26	38	243	504	428	195	1,610	232	152	282	68	221	23
27	38	232	612	396	200	1,370	210	134	243	71	540	22
28	38	228	1,920	362	185	1,500	194	118	222	79	272	22
29	38	232	1,510	320		1,390	178	121	202	61	164	21
30	150	214	1,140	307		1,040	167	401	206	103	120	23
31	239		891	312		958		334		324	96	

Month	Observed				Diversion and change in contents ½ (mean second-feet)	Adjusted		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	1,478	239	28	47.7	+20.9	68.6	0.152	0.18
November	6,731	589	124	224	+97.8	322	.714	.80
December	23,493	1,920	210	758	+290	1,048	2.32	2.67
Calendar year 1940	236,562	13,800	28	646	+137	783	1.74	23.63
January	15,656	1,560	230	505	+191	696	1.54	1.78
February	7,673	680	180	274	+109	383	.849	.88
March	26,717	2,360	175	862	+218	1,080	2.39	2.76
April	29,822	6,020	167	994	+157	1,151	2.55	2.85
May	5,780	401	118	186	+89.2	275	.610	.70
June	49,518	15,800	202	1,651	+214	1,865	4.14	4.61
July	6,951	781	61	224	+60.6	285	.632	.73
August	4,718	540	37	152	+60.8	213	.472	.54
September	1,762	274	21	58.7	+31.8	90.5	.201	.22
Water year 1940-41	180,299	15,800	21	494	+129	623	1.38	18.72

* Winter discharge measurement made on this day.
½ Diversion from and change in contents in Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, and Mill Creek No. 2 Reservoirs; no corrections made for evaporation and seepage losses.
Note.- Stage-discharge relation affected by ice Jan. 14-16, 20, 21, Feb. 5 to Mar. 4.

Conemaugh River at Seward, Pa.

Location.- Water-stage recorder, lat. 40°25'10", long. 79°01'40", at highway bridge at Seward, Westmoreland County, 2 miles downstream from Findley Run and 9 miles northwest of Johnstown. Datum of gage is 1,075.64 feet above mean sea level (unadjusted).
Drainage area.- 715 square miles.
Records available.- May 1938 to September 1941.
Extremes.- Maximum discharge during year, 28,200 second-feet June 5 (gage height, 13.15 feet; minimum (regulated), 195 second-feet Oct. 18 (gage height, 2.57 feet); minimum daily (regulated), 207 second-feet Oct. 17, 18.
1938-41: Maximum discharge, 35,000 second-feet Mar. 31, 1940 (gage height, 15.22 feet); minimum not determined (occurred during period of ice effect Dec. 28-31, 1938); minimum daily, 105 second-feet Dec. 28, 29, 31, 1938.
Maximum stage known, 26.4 feet Mar. 18, 1936, from floodmarks (discharge, about 90,000 second-feet).
Remarks.- Records good. Flow regulated by steel mills and by several reservoirs upstream (combined capacity of eight largest reservoirs, 2,060,170,000 cubic feet).
Cooperation.- Records of reservoir contents furnished by Bethlehem Steel Co. and Johnstown Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	246	428	738	1,710	673	532	2,080	480	841	523	686	402
2	246	963	974	1,930	673	540	2,570	472	2,250	489	489	380
3	246	1,050	782	3,300	630	633	2,670	448	1,360	1,380	410	367
4	246	630	547	2,590	540	2,730	2,710	425	4,870	2,080	367	378
5	246	472	652	1,840	498	2,220	9,550	425	21,500	1,960	373	426
6	222	514	620	1,520	540	1,590	7,770	418	8,840	1,100	367	721
7	227	506	690	1,230	673	1,290	4,820	410	4,210	1,130	360	565
8	236	440	1,610	1,100	610	1,140	3,620	455	2,740	1,130	340	432
9	232	402	1,370	1,040	532	1,100	2,880	523	1,850	922	334	380
10	232	367	1,310	974	498	1,000	2,370	550	1,450	739	314	369
11	227	367	2,000	896	519	1,110	1,960	506	1,200	651	302	402
12	217	432	1,750	798	618	1,060	1,670	440	1,100	620	571	367
13	232	489	2,840	762	858	948	1,450	410	2,180	630	480	334
14	222	472	2,690	662	974	1,010	1,310	388	2,260	532	388	302
15	212	600	1,940	651	1,370	1,290	1,180	395	1,670	489	1,440	285
16	212	640	2,080	640	1,140	1,730	1,070	473	1,840	480	1,720	285
17	207	540	2,880	651	935	1,570	1,010	758	1,850	562	832	285
18	207	489	2,110	822	774	1,100	948	762	5,360	742	580	279
19	217	455	1,670	870	651	1,140	909	610	3,060	550	710	268
20	227	489	1,520	651	640	1,170	834	498	2,060	455	1,060	273
21	222	570	1,450	560	630	1,730	762	464	1,570	418	750	268
22	232	580	1,260	640	640	2,880	695	435	1,260	402	580	273
23	232	506	1,100	1,260	610	3,510	651	642	1,070	440	498	268
24	227	498	961	1,520	590	4,070	695	610	948	440	440	268
25	227	624	858	1,140	610	4,070	695	489	834	432	551	262
26	227	590	1,020	935	600	3,080	600	448	728	425	640	262
27	217	580	1,340	896	640	2,670	570	425	662	410	1,290	251
28	217	590	3,690	846	590	2,880	540	395	610	425	830	251
29	232	540	3,440	750		2,690	523	434	550	425	600	256
30	360	540	2,610	717		2,170	498	824	570	718	498	236
31	489		2,080	728		1,980		874		1,220	440	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	7,441	489	207	240	-85.7	154	0.215	0.25
November	16,363	1,050	367	545	+7.1	552	.772	.86
December	50,562	3,690	547	1,631	+196	1,827	2.56	2.95
Calendar year 1940	462,479	23,900	207	1,264	+19.6	1,284	1.80	24.41
January	34,629	3,300	560	1,117	+61.9	1,179	1.65	1.90
February	19,256	1,370	498	688	-22.3	666	.931	.97
March	56,633	4,070	532	1,827	+73.3	1,900	2.66	3.07
April	59,610	9,550	498	1,987	+6.4	1,993	2.79	3.11
May	15,886	874	388	512	-54.1	458	.641	.74
June	81,293	21,500	550	2,710	+86.5	2,796	3.91	4.36
July	22,919	2,080	402	739	-75.1	664	.929	1.07
August	19,240	1,720	302	621	-68.9	552	.772	.89
September	10,095	721	236	336	-108	228	.319	.36
Water year 1940-41	393,927	21,500	207	1,079	+1.5	1,080	1.51	20.53

Peak discharge.- Apr. 5 (3 p.m.) 12,900 sec.-ft.; June 5 (10 a.m.) 28,200 sec.-ft.
∕ Change in contents in Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, Mill Creek No. 2, Hinkston, Saltlick, and Laurel Run Reservoirs; no corrections made for evaporation and seepage losses.

Conemaugh River at Tunnelton, Pa.

Location.- Wire-weight gage, lat. 40°27'15", long. 79°23'30", at highway bridge at Tunnelton, Indiana County, 0.9 mile downstream from Boatyard Run, 3 3/4 miles southeast of Saltsburg, and 5.5 miles upstream from confluence with Loyalhanna Creek. Datum of gage is 844.64 feet above mean sea level, datum of 1929.
Drainage area.- 1,358 square miles.
Records available.- October 1939 to September 1941.
Extremes.- Maximum discharge during year, 42,300 second-feet June 5 (gage height, 16.9 feet, from graph based on gage readings); minimum observed, 268 second-feet Oct. 14 (gage height, 2.03 feet).
1939-41: Maximum discharge, 55,600 second-feet Mar. 31, 1940 (gage height, 20.18 feet, from floodmark); minimum observed, 220 second-feet Oct. 18, 20, 1939 (gage height, 1.94 feet).
Remarks.- Records good except those for periods of ice effect and those for periods of doubtful gage-height record, all of which are fair. Gage read twice daily. Flow regulated by steel mills and by several reservoirs upstream (combined capacity of eight largest reservoirs, 2,060,170,000 cubic feet).
Cooperation.- Records of reservoir contents furnished by Bethlehem Steel Co. and Johnstown Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	342	652	1,300	3,580	1,580	b1,100	2,900	752	1,580	652	1,110	700
2	330	752	2,140	3,760	1,510	b1,000	3,060	700	3,060	605	752	652
3	330	1,300	1,780	6,800	1,370	1,180	3,400	652	2,140	923	605	605
4	323	d1,100	b1,150	5,630	1,240	5,220	3,400	652	6,380	2,580	490	752
5	310	d605	b1,150	3,760	b1,050	5,000	11,300	652	31,100	2,580	438	752
6	316	605	b1,100	b2,900	b1,050	3,400	14,300	652	16,300	1,640	410	1,640
7	330	652	1,180	b2,400	1,300	2,580	7,780	571	6,560	1,510	410	1,440
8	316	652	2,980	b2,000	1,370	2,140	5,860	605	3,760	1,710	410	920
9	323	605	3,230	b1,900	b1,200	1,990	4,340	752	2,900	1,510	389	752
10	316	546	2,580	b1,750	b1,150	1,780	3,760	862	2,140	1,110	368	862
11	292	528	*3,060	b1,700	b1,100	2,140	3,060	805	1,990	920	382	1,040
12	304	490	3,060	b1,600	1,300	2,580	2,280	752	1,710	920	490	805
13	298	605	d3,600	*1,510	*1,640	1,990	2,280	700	2,140	805	700	652
14	280	805	d4,700	1,370	2,140	2,280	1,990	588	2,900	752	490	520
15	304	752	3,230	1,240	d3,200	2,580	1,780	571	3,060	652	1,150	505
16	280	982	3,230	1,300	d2,900	3,580	1,780	596	2,900	652	3,760	490
17	292	982	4,960	1,440	2,430	3,230	1,640	920	2,900	605	2,190	468
18	280	805	3,760	2,280	b1,750	b2,200	1,510	1,300	6,610	605	1,110	431
19	280	752	3,060	2,140	b1,400	b1,900	1,440	1,040	3,950	805	1,540	417
20	323	752	2,580	b1,400	b1,300	b2,150	1,300	862	2,900	652	2,900	389
21	316	752	2,580	b1,250	b1,300	b2,100	1,240	805	2,280	520	1,850	389
22	298	862	2,280	b1,550	b1,350	4,340	1,110	700	1,990	460	1,240	389
23	298	862	1,990	2,580	b1,300	5,630	1,040	752	1,640	d460	1,110	382
24	316	752	1,850	3,400	b1,200	*6,320	d1,240	982	1,300	d480	982	375
25	316	862	1,780	3,060	b1,200	6,560	1,180	752	1,240	d480	805	375
26	310	1,040	1,990	2,280	b1,200	5,180	1,040	605	1,040	d470	1,410	368
27	298	1,370	1,990	2,140	b1,200	4,140	920	596	920	d460	3,580	349
28	304	d1,250	4,580	1,990	b1,150	3,760	862	571	862	d460	2,280	349
29	310	*d1,150	7,040	1,710		3,950	805	571	752	d450	1,580	349
30	375	d1,050	6,320	1,640		3,400	752	862	652	1,040	1,110	349
31	571		4,340	1,640		2,900		1,440		2,140	805	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	9,881	571	280	319	-85.7	233	0.172	0.20
November	24,872	1,370	490	829	+7.1	836	.616	.69
December	90,570	7,040	1,100	2,922	+196	3,118	2.30	2.65
Calendar year 1940	828,613	45,700	280	2,264	+19.6	2,284	1.68	22.89
January	73,700	6,800	1,240	2,377	+61.9	2,439	1.80	2.08
February	41,880	3,200	1,050	1,496	-22.3	1,474	1.09	1.13
March	98,300	6,560	1,000	3,171	+73.3	3,244	2.39	2.76
April	89,349	14,300	752	2,978	+6.4	2,984	2.20	2.45
May	23,620	1,440	571	762	-54.1	708	.521	.60
June	119,656	31,100	652	3,989	+86.5	4,076	3.00	3.35
July	29,608	2,580	450	955	-75.1	880	.648	.75
August	36,846	3,760	368	1,189	-68.9	1,120	.825	.95
September	18,466	1,640	349	616	-108	508	.374	.42
Water year 1940-41	656,748	31,100	280	1,799	+1.5	1,800	1.33	18.03

* Winter discharge measurement made on this day.
∕ Change in contents in Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, Mill Creek No. 2, Hinkston, Saltlick, and Laurel Run Reservoirs; no corrections made for evaporation and seepage losses.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of records for stations upstream.

Kiskiminetas River at Vandergrift, Pa.

Location.- Water-stage recorder, lat. 40°36'20", long. 79°33'15", a third of a mile upstream from highway bridge at Vandergrift, Westmoreland County, two-thirds of a mile upstream from former site, and 2 miles upstream from Pine Run. Datum of gage is 769.40 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 1,825 square miles.
Records available.- August 1937 to September 1941 in reports of U. S. Geological Survey. November 1915 to September 1941 (prior to 1937 gage heights only) in reports of Pennsylvania Department of Forests and Waters.
Extremes.- Maximum discharge during year, 56,100 second-feet June 5 (gage height, 22.68 feet); minimum, 316 second-feet Oct. 14 (gage height, 3.12 feet).
1915-41: Maximum discharge, 185,000 second-feet Mar. 18, 1936 (gage height, 41.64 feet, from floodmark at present site), by slope-area method; minimum not determined.
Remarks.- Records excellent except those for periods of ice effect, which are fair. Flow regulated by steel mills and by several reservoirs upstream (combined capacity of nine largest reservoirs, 2,108,300,000 cubic feet).
Cooperation.- Records of reservoir contents furnished by Bethlehem Steel Co., Johnstown Water Co., and Latrobe Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	402	942	1,860	5,360	2,050	1,450	3,550	986	2,290	1,020	1,960	1,110
2	394	1,520	*3,310	*5,280	1,930	1,300	3,960	946	5,690	930	1,110	978
3	389	2,670	2,720	9,800	*1,930	*1,540	4,380	902	4,300	994	780	860
4	380	1,880	1,600	8,420	1,690	5,780	4,380	860	7,010	3,440	622	839
5	376	1,310	1,650	5,930	1,380	7,550	13,400	818	39,500	3,550	540	1,000
6	368	1,150	1,600	4,220	1,360	4,820	19,800	797	28,100	2,480	515	1,910
7	352	1,330	1,960	3,390	1,930	3,790	11,500	797	11,200	1,930	482	2,090
8	334	1,180	4,710	2,790	1,990	3,160	7,980	825	7,130	2,120	446	1,350
9	348	1,010	4,640	2,650	1,620	2,940	6,120	902	4,820	2,050	451	1,060
10	344	870	3,550	2,380	1,510	2,580	5,000	1,060	3,470	1,580	456	1,280
11	334	816	3,630	2,180	1,450	2,940	4,130	1,090	2,790	1,600	446	1,940
12	334	816	3,960	1,990	1,690	3,880	3,550	978	2,380	2,280	500	1,370
13	331	934	4,460	1,810	2,480	3,310	3,080	853	2,570	1,220	780	1,030
14	322	1,070	6,520	1,640	3,390	3,470	2,650	783	4,380	1,070	752	839
15	328	1,070	4,820	1,450	4,470	3,960	2,440	755	3,790	1,070	1,450	720
16	325	1,240	4,220	1,640	4,470	4,820	2,180	811	3,790	938	5,350	644
17	322	1,300	6,120	1,930	3,550	5,000	2,050	1,550	4,470	846	2,920	605
18	322	1,130	5,360	2,650	2,500	3,550	1,930	2,200	7,250	827	1,620	570
19	322	1,020	4,220	3,080	1,700	2,940	1,810	1,870	7,550	1,060	1,750	545
20	337	966	3,470	2,380	1,500	3,630	1,690	1,440	4,820	804	4,640	516
21	348	990	3,240	1,690	1,550	3,550	1,550	1,200	3,470	678	2,910	496
22	348	1,110	2,860	1,810	1,650	5,000	1,410	1,060	2,790	610	1,870	474
23	352	1,120	2,440	2,760	1,600	6,120	1,300	1,060	2,310	575	1,410	469
24	352	1,060	2,180	4,220	1,550	7,340	1,430	1,500	2,050	545	1,130	474
25	344	1,120	1,930	4,470	1,550	8,200	1,570	1,250	1,750	535	1,130	460
26	344	1,460	1,810	3,550	1,600	6,920	1,390	1,030	1,510	550	2,410	446
27	334	3,530	2,180	3,080	1,600	5,550	1,240	930	1,330	510	5,740	433
28	331	2,820	5,280	2,790	1,600	5,000	1,150	846	1,210	487	3,770	424
29	337	2,120	11,000	2,440		5,000	1,070	846	1,120	487	2,240	407
30	458	1,810	8,870	2,180		4,380	1,030	1,760	1,060	525	1,640	407
31	819		7,130	2,050		3,790		2,240		1,860	1,290	

Month	Observed				Change in contents / (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	11,331	819	322	366	-88.5	278	0.152	0.18
November	41,364	3,530	816	1,379	+8.8	1,388	.761	.85
December	123,300	11,000	1,600	3,977	+203	4,180	2.29	2.64
Calendar year	1,152,020	60,400	322	3,148	+20.8	3,169	1.74	23.65
January	102,010	9,800	1,450	3,291	+61.1	3,352	1.84	2.12
February	57,290	4,470	1,360	2,046	-21.8	2,024	1.11	1.16
March	133,260	8,200	1,300	4,299	+73.3	4,372	2.40	2.77
April	118,720	19,800	1,030	3,957	+6.2	3,963	2.17	2.42
May	34,945	2,240	755	1,127	-54.4	1,073	.588	.68
June	175,900	39,500	1,060	5,863	+86.4	5,949	3.26	3.64
July	39,171	3,550	487	1,264	-77.0	1,187	.650	.75
August	53,110	5,740	446	1,713	-68.7	1,644	.901	1.04
September	25,745	2,090	407	858	-110	748	.410	.46
Water year 1940-41	916,146	39,500	322	2,510	+1.6	2,512	1.38	18.71

* Winter discharge measurement made on this day.
/ Change in contents in Quemahoning, North Fork of Bens Creek, Dalton Run, Mill Creek No. 1, Mill Creek No. 2, Hinkston, Saltlick, Laurel Run, and Trout Run Reservoirs; no corrections made for evaporation and seepage losses.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Feb. 18 to Mar. 2.

Little Conemaugh River at East Conemaugh, Pa.

Location.- Water-stage recorder, lat. 40°20'35", long. 78°53'05", at highway bridge at East Conemaugh, Cambria County, 0.3 mile downstream from Clapboard Run and 2.5 miles upstream from confluence with Stony Creek. Datum of gage is 1,207.92 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 183 square miles.
Records available.- April 1939 to September 1941.
Extremes.- Maximum discharge during year, 7,530 second-feet June 5 (gage height, 7.19 feet); minimum (regulated), 9.8 second-feet Oct. 13, 14 (gage height, 1.26 feet); minimum daily (regulated), 12.0 second-feet Oct. 13.
1939-41: Maximum discharge, 11,800 second-feet Mar. 30, 1940 (gage height, 8.80 feet), from rating curve extended above 5,100 second-feet by logarithmic plotting; minimum observed (regulated), 3.6 second-feet Sept. 24, 1939.
Maximum discharge known, 28,800 second-feet Mar. 17, 18, 1936 (gage height not determined), by slope-area method.
Remarks.- Records good. Flow regulated by water-supply reservoirs and diversion works upstream. Water diverted at South Fork intake to Cambria plant of Bethlehem Steel Co., from Salt Lick and Laurel Run Reservoirs (combined capacity, 122,000,000 cubic feet) to city of Johnstown, and from Wilmore Reservoir (capacity, 137,000,000 cubic feet) to Pennsylvania Railroad water-supply system in Johnstown and vicinity.
Cooperation.- Records of diversion and change in reservoir contents furnished by Bethlehem Steel Co. and Johnstown Water Co. Results of three discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17.5	34	150	425	118	85	472	79	168	100	131	76
2	16.0	167	187	506	116	87	652	75	256	87	83	70
3	17.0	122	128	800	108	117	705	69	158	474	62	60
4	15.5	74	119	596	85	716	720	64	774	744	54	58
5	15.0	56	131	442	74	409	2,900	65	5,160	482	50	107
6	12.5	74	107	362	94	288	1,780	61	1,710	299	46	170
7	16.5	76	141	299	116	222	1,100	61	820	379	42	96
8	24	61	357	254	97	196	832	72	542	346	38	76
9	21	51	250	218	82	192	660	81	396	245	36	62
10	17.0	43	288	201	83	177	542	99	299	188	36	61
11	16.5	44	462	181	87	201	454	81	231	181	36	90
12	12.5	79	380	162	113	181	374	67	214	177	176	67
13	12.0	107	763	147	173	158	314	58	314	147	90	51
14	14.5	97	568	118	188	186	273	54	273	124	52	41
15	14.5	135	412	118	288	282	235	57	254	110	557	40
16	14.0	130	523	118	201	390	214	99	407	105	604	35
17	13.0	102	694	118	165	325	196	135	408	99	259	34
18	13.5	92	474	171	134	254	181	121	1,170	90	158	32
19	14.0	84	375	164	128	254	181	86	589	85	230	31
20	16.0	90	350	108	124	259	169	70	419	76	328	28
21	17.0	107	335	99	124	472	144	62	319	72	184	28
22	17.0	107	286	118	124	718	131	60	264	65	138	29
23	14.0	90	246	313	121	796	118	96	226	61	116	27
24	14.0	97	210	259	113	889	138	92	192	62	94	25
25	15.0	119	191	201	108	824	121	65	162	58	140	27
26	14.5	100	286	165	105	589	105	55	141	56	162	23
27	13.0	119	315	158	113	522	97	50	124	52	352	22
28	14.5	104	1,380	147	99	575	92	46	113	54	183	22
29	14.0	106	959	134		529	87	44	105	50	124	24
30	48	92	705	121		419	83	227	108	188	99	21
31	57		522	131		384		149		356	83	

Month	Observed				Diversion and change in contents / (mean second-feet)	Adjusted		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	550.5	57	12.0	17.8	+28.2	46.0	0.251	0.29
November	2,759	167	34	92.0	+33.2	125	.683	.76
December	12,294	1,380	107	397	+46.4	443	2.42	2.79
Calendar year 1940	104,811.5	6,440	12.0	286	+38.1	324	1.77	24.14
January	7,354	800	99	237	+36.7	274	1.50	1.73
February	3,481	288	74	124	+33.6	158	.863	.90
March	11,696	889	85	377	+35.5	413	2.26	2.61
April	14,070	2,900	83	469	+36.0	506	2.76	3.08
May	2,500	227	44	80.6	+33.5	114	.623	.72
June	16,316	5,160	105	544	+39.2	583	3.19	3.56
July	5,612	744	50	181	+35.5	216	1.18	1.36
August	4,743	604	36	153	+33.5	186	1.02	1.18
September	1,533	170	21	51.1	+36.0	87.1	.476	.53
Water year 1940-41	82,908.5	5,160	12.0	227	+35.8	263	1.44	19.51

/ Diversion from and change in contents in Saltlick and Laurel Run Reservoirs and diversion from South Fork intake; no corrections made for evaporation and seepage losses. Figures do not include diversion from Wilmore Reservoir (about 2.6 second-feet) or change in contents in that reservoir.

Blacklick Creek at Blacklick, Pa.

Location.- Chain gage, lat. 40°28'25", long. 79°12'15", at highway bridge at Gratton, a quarter of a mile northwest of Blacklick, Indiana County, and three-quarters of a mile downstream from Two Lick Creek. Datum of gage is 945.94 feet above mean sea level (Pennsylvania State highway bench mark).

Drainage area.- 390 square miles.

Records available.- August 1904 to September 1913, October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. August 1904 to December 1905, January 1907 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 34 years (1907-41), 661 second-feet.

Extremes.- Maximum discharge during year, 7,280 second-feet June 5 (gage height, 8.0 feet, from graph based on gage readings); minimum observed, 27 second-feet Oct. 6, 10 (gage height, 2.57 feet); minimum daily, 30 second-feet Oct. 6.
1904-41: Maximum discharge, 51,700 second-feet Mar. 18, 1936 (gage height, 15.88 feet, from floodmark), by slope-area method; minimum observed, 6 second-feet Sept. 12, 16-27, 1908 (gage height, 1.88 feet).

Remarks.- Records good except those for periods of ice effect and those for periods of no or doubtful gage-height record, all of which are fair. Gage read twice daily. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	77	650	1,140	354	220	765	162	291	101	189	242
2	45	330	685	1,360	402	210	890	159	433	98	118	202
3	39	298	402	2,310	354	230	890	155	288	109	90	166
4	39	159	230	1,770	230	2,210	848	137	1,530	329	69	248
5	32	122	260	a1,000	220	1,590	3,550	148	5,730	331	69	282
6	30	173	210	a800	260	1,080	2,840	128	2,480	181	60	725
7	32	169	539	a600	330	848	1,770	128	1,240	194	57	360
8	41	137	1,650	500	320	725	1,360	162	890	433	60	242
9	32	118	935	535	280	645	1,080	173	608	242	57	198
10	34	103	765	466	250	570	890	223	a440	169	51	238
11	32	87	1,080	*402	300	725	725	173	a350	141	45	242
12	37	90	*935	348	*370	725	608	155	a280	177	135	206
13	34	169	1,940	280	480	570	535	137	a430	173	148	151
14	39	151	1,410	220	872	608	500	131	402	125	185	128
15	39	173	980	220	1,360	805	433	125	535	103	580	115
16	43	214	1,320	256	1,030	1,030	365	177	685	106	980	101
17	32	177	1,770	348	765	805	342	306	593	125	442	98
18	41	162	1,080	662	500	*480	342	402	1,460	101	238	90
19	35	155	848	570	380	440	298	247	788	103	320	77
20	39	162	725	310	290	440	298	206	500	87	972	77
21	45	194	645	280	300	848	256	181	371	77	466	79
22	49	189	535	310	310	1,140	219	166	309	65	309	74
23	41	173	466	1,080	290	1,530	219	177	272	67	272	67
24	43	173	402	935	270	1,770	314	166	223	65	202	69
25	37	238	348	848	240	2,030	277	141	185	72	247	67
26	39	200	402	725	250	1,410	238	122	166	67	d500	65
27	37	280	500	645	260	1,140	219	109	137	53	d960	55
28	35	*330	2,600	570	230	1,140	194	101	118	57	570	53
29	37	240	2,450	500		1,030	177	101	137	49	402	53
30	101	230	2,030	433		805	151	423	122	158	314	53
31	118		1,470	466		725		343		371	282	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,320	118	30	42.6	0.109	0.13
November	5,473	330	77	182	.467	.52
December	30,262	2,600	210	976	2.50	2.88
Calendar year 1940	229,478	12,600	30	627	1.61	21.87
January	20,869	2,310	220	674	1.73	1.99
February	11,497	1,360	220	411	1.05	1.09
March	28,524	2,210	210	920	2.36	2.72
April	21,593	3,550	151	720	1.85	2.06
May	5,664	423	101	183	.469	.54
June	21,993	5,730	118	733	1.88	2.10
July	4,529	433	49	146	.374	.43
August	9,389	980	45	303	.777	.90
September	4,823	725	53	161	.413	.46
Water year 1940-41	165,956	5,730	30	455	1.17	15.82

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
d Doubtful gage-height record; discharge computed on basis of records for nearby stations.
Note.- Backwater from leaves Oct. 1 to Nov. 2; discharge computed on basis of gage heights and one discharge measurement. Stage-discharge relation affected by ice Nov. 26-30, Dec. 4-6, Jan. 3-15, 20-22, Feb. 4-13, Feb. 19 to Mar. 3, Mar. 18-20.

Loyalhanna Creek at Kingston, Pa.

Location.- Water-stage recorder, lat. 40°17'35", long. 79°20'25", 60 feet downstream from highway bridge at Kingston, Westmoreland County, 150 feet upstream from Millers Run, 1.9 miles upstream from Ninemile Run, and 3 miles southeast of Latrobe. Datum of gage is 1,014.16 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 168 square miles.
Records available.- December 1939 to September 1941.
Extremes.- Maximum discharge during year, 9,830 second-feet June 5 (gage height, 10.06 feet); minimum (regulated), 10.5 second-feet Oct. 14, 15 (gage height, 1.15 feet).
1939-41: Maximum discharge, that of June 5, 1941; minimum (regulated), 9.1 second-feet Aug. 16, 1940 (gage height, 1.12 feet); minimum daily (regulated), 10 second-feet Aug. 15-17, 25, 1940.
Flood of Mar. 17 or 18, 1936, reached a stage of about 14.5 feet, from information by local residents (discharge not determined).
Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair. Flow regulated by Trout Run Reservoir (capacity, 48,130,000 cubic feet). Water diverted from reservoir to borough of Latrobe.
Cooperation.- Records of diversion and reservoir contents furnished by Latrobe Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16.5	86	534	435	174	120	268	73	1,060	65	52	67
2	16.0	527	384	726	174	120	305	69	2,120	64	36	59
3	16.0	254	270	1,180	150	250	331	62	806	286	26	50
4	15.5	160	200	752	130	891	355	57	2,990	521	22	53
5	15.0	122	240	488	120	490	2,470	56	6,630	302	20	173
6	13.5	181	190	362	150	354	1,420	51	1,960	157	17.5	321
7	12.5	155	350	278	190	291	862	50	896	182	16.0	128
8	12.0	128	665	240	180	274	600	84	521	160	13.0	109
9	12.0	101	395	225	150	258	448	100	322	113	12.5	78
10	12.0	84	316	180	130	230	358	124	225	80	13.0	97
11	11.5	78	*291	160	*145	305	309	86	167	67	13.5	162
12	11.5	112	261	*145	170	343	258	75	150	65	69	82
13	11.5	107	426	130	230	293	228	67	335	65	37	61
14	11.0	90	379	125	260	364	206	64	248	57	22	53
15	11.0	109	320	130	370	431	184	62	316	53	753	46
16	11.5	107	383	166	290	526	169	410	472	53	336	42
17	12.5	94	423	302	240	*466	160	589	395	48	132	38
18	14.0	84	316	467	195	312	148	543	934	44	82	36
19	16.5	78	268	344	*165	298	135	331	467	41	467	31
20	18.5	80	255	252	155	295	124	252	305	38	419	27
21	18.0	82	234	180	150	380	113	203	222	32	192	23
22	18.5	78	203	190	145	472	101	172	167	29	126	21
23	17.5	71	179	402	140	506	96	364	137	27	90	20
24	16.0	103	155	343	135	610	175	272	115	27	73	20
25	15.5	132	146	391	130	610	124	197	90	25	187	18.0
26	16.5	120	155	309	135	477	107	169	73	23	290	16.0
27	17.5	a500	150	284	140	391	96	148	67	21	434	16.0
28	16.5	a280	549	252	130	362	88	126	67	20	198	15.0
29	16.0	a*200	600	222		339	82	246	65	17.5	130	14.5
30	207	182	768	217		288	75	1,020	65	36	99	14.5
31	144		579	208		271		399		185	82	

Month	Observed				Diversion and change in contents, / (mean second-feet)	Adjusted		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	773.5	207	11.0	25.0	+0.8	25.8	0.154	0.18
November	4,485	527	71	150	+5.3	155	.923	1.03
December	10,584	768	146	341	+10.5	352	2.10	2.42
Calendar year 1940	109,423.5	4,840	10	299	+4.9	304	1.81	24.62
January	10,085	1,180	125	325	+3.0	328	1.95	2.25
February	4,873	370	120	174	+4.2	178	1.06	1.10
March	11,617	891	120	375	+3.9	379	2.26	2.61
April	10,395	2,470	75	346	+3.5	350	2.08	2.32
May	6,521	1,020	50	210	+3.6	214	1.27	1.46
June	22,387	6,630	65	746	+3.7	750	4.46	4.98
July	2,903.5	521	17.5	93.7	+2.5	96.2	.573	.66
August	4,459.5	753	12.5	144	+4.6	149	.887	1.02
September	1,891.0	321	14.5	63.0	+2.5	65.5	.390	.44
Water year 1940-41	90,974.5	6,630	11.0	249	+4.0	253	1.51	20.47

* Winter discharge measurement made on this day.
/ Diversion from and change in contents in Trout Run Reservoir; no corrections made for evaporation and seepage losses.
a No gage-height record, discharge computed on basis of records for station at Loyalhanna Creek Dam.
Note.- Stage-discharge relation affected by ice Dec. 4-7, Jan. 10-15, 21, 22, Feb. 3 to Mar. 3.

Loyalhanna Creek at Loyalhanna Creek Dam, Pa.

Location.- Water-stage recorder, lat. 40°27'50", long. 79°27'05", at highway bridge 1 mile downstream from Loyalhanna Creek Dam, Westmoreland County, 2 miles south of Saltsburg, and 3.8 miles upstream from mouth. Datum of gage is 861.15 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 292 square miles.

Records available.- March 1940 to September 1941.

Extremes.- Maximum discharge during year, 11,700 second-feet June 5 (gage height, 10.30 feet); minimum (regulated), 35 second-feet Oct. 14 (gage height, 0.53 foot); minimum daily (regulated), 40 second-feet Oct. 14.
1940-41: Maximum discharge, that of June 5, 1941; minimum (regulated), that of Oct. 14, 1940; minimum daily (regulated), that of Oct. 14, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by construction operations at Loyalhanna Creek Dam, by mine pumpage, and by Trout Run Reservoir (capacity, 48,130,000 cubic feet).

Cooperation.- Records of reservoir contents furnished by Latrobe Water Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	134	499	905	324	226	403	139	630	126	159	164
2	50	458	664	942	316	212	417	136	2,710	107	91	142
3	52	444	450	1,930	316	256	441	128	1,200	188	72	126
4	51	236	305	1,340	250	1,340	465	119	3,000	883	60	124
5	50	173	340	905	741	908	3,000	116	9,200	625	58	216
6	46	212	290	654	244	638	2,430	114	3,410	313	57	436
7	44	226	400	515	390	520	1,480	112	1,600	265	51	271
8	48	182	1,070	450	377	465	1,070	119	1,030	279	49	189
9	44	154	678	417	328	436	810	154	659	213	48	161
10	43	131	510	360	264	352	660	182	481	169	44	424
11	43	125	*445	316	*275	566	550	160	375	145	47	545
12	43	128	394	290	316	810	460	134	302	134	95	265
13	42	157	507	*264	460	638	390	125	553	129	111	189
14	40	136	588	229	578	762	352	114	590	116	70	153
15	41	142	490	226	780	840	312	112	514	107	526	129
16	41	157	526	257	666	970	293	246	725	109	1,260	112
17	41	142	696	402	535	872	275	610	677	100	310	102
18	44	134	540	721	426	b*530	253	885	1,290	89	182	94
19	46	122	445	605	333	b500	236	505	885	87	496	89
20	50	119	412	417	*286	b490	219	377	564	78	1,140	83
21	50	119	394	b300	286	583	202	301	395	78	434	72
22	50	119	336	b310	275	726	189	243	306	68	262	72
23	50	114	297	590	257	744	179	334	254	65	195	72
24	47	119	260	644	250	840	248	447	225	63	158	70
25	47	158	236	840	246	905	239	301	195	63	193	70
26	46	226	246	627	253	774	189	246	167	60	601	66
27	44	810	257	545	260	644	173	212	148	58	1,230	63
28	46	*622	916	490	250	578	164	182	134	58	508	62
29	46	412	1,280	412		525	154	176	122	54	798	60
30	76	340	1,480	360		450	145	1,090	119	68	222	62
31	250		1,200	344		441		638		264	183	

Month	Observed				Change in contents / (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	1,663	250	40	53.6	-2.8	50.8	0.174	0.20
November	6,751	810	114	225	+1.7	227	.777	.87
December	17,151	1,480	236	553	+6.5	560	1.92	2.21
Calendar year								
January	17,607	1,930	226	568	-0.8	567	1.94	2.24
February	10,282	780	244	367	+0.5	368	1.26	1.31
March	19,541	1,340	212	630	0	630	2.16	2.49
April	16,398	3,000	145	547	-0.2	547	1.87	2.09
May	8,757	1,090	112	282	-0.2	282	.966	1.11
June	32,460	9,200	119	1,082	-0.2	1,082	3.71	4.14
July	5,161	883	54	166	-1.9	164	.562	.65
August	9,710	1,260	44	313	+0.1	313	1.07	1.23
September	4,683	545	60	156	-1.9	154	.527	.59
Water year 1940-41	150,164	9,200	40	411	+0.1	411	1.41	19.13

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
/ Change in contents in Trout Run Reservoir; no corrections made for evaporation and seepage losses.

Buffalo Creek near Freeport, Pa.

Location.- Staff gage, lat. 40°43'00", long. 79°42'00", 0.5 mile upstream from Little Buffalo Creek, and 3 miles north of Freeport, Armstrong County.

Drainage area.- 137 square miles.

Records available.- November 1940 to September 1941.

Extremes.- Maximum discharge during period, 1,880 second-feet Aug. 15 (gage height, 4.7 feet, from graph based on gage readings); minimum observed, 5.3 second-feet Sept. 30 (gage height, 0.96 foot).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		41	481	410	130	85	188	39	37	31	140	25
2		289	385	471	154	90	168	37	198	25	81	18.0
3		121	306	592	*142	*160	148	35	82	18.0	55	17.0
4		72	230	485	120	1,230	142	32	684	48	42	47
5		60	210	385	80	620	697	31	1,020	48	34	46
6		69	160	292	85	435	805	29	435	26	28	91
7		58	270	324	105	320	565	28	254	21	23	45
8		48	410	260	*95	270	435	70	284	36	19.5	32
9		41	333	*210	90	250	338	52	168	33	19.0	25
10		36	238	120	80	188	262	47	116	20	18.0	25
11		61	196	100	85	215	215	37	89	17.5	16.0	23
12		74	191	95	90	258	178	33	78	58	23	19.5
13		81	435	90	*100	230	148	31	136	36	27	17.0
14		64	324	85	140	288	129	29	482	22	17.0	14.5
15		76	270	80	500	385	116	29	246	25	642	12.5
16		67	*424	85	490	346	104	81	274	27	921	12.5
17		54	410	115	400	385	95	95	270	21	344	11.5
18		47	328	219	270	333	85	106	200	18.5	196	10.0
19		43	274	164	160	302	85	72	142	438	164	8.6
20		41	222	130	130	*270	78	60	106	141	116	8.1
21		*43	192	150	110	333	71	48	85	71	79	7.6
22		47	164	200	100	485	63	43	69	51	61	7.3
23		42	135	300	95	538	57	41	58	40	51	7.3
24		48	108	207	90	680	67	40	48	34	43	6.9
25		64	101	327	100	680	57	33	43	28	39	6.3
26		57	104	306	110	485	52	29	37	24	46	6.3
27		*386	108	246	110	385	48	27	33	19.0	41	6.3
28		385	919	210	90	338	45	24	28	16.0	31	6.3
29		262	838	170		292	42	25	31	17.0	25	5.6
30		215	710	150		226	40	57	37	100	21	5.3
31			510	140		196		45		430	19.5	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November	2,992	386	36	99.7	0.728	0.81
December	9,986	919	101	322	2.35	2.71
Calendar year						
January	7,118	592	80	230	1.68	1.94
February	4,251	500	80	152	1.11	1.16
March	11,298	1,230	85	364	2.66	3.07
April	5,523	805	40	184	1.34	1.50
May	1,385	106	24	44.7	.326	.38
June	5,770	1,020	28	192	1.40	1.56
July	1,940.0	438	16.0	62.6	.457	.53
August	3,382.0	921	16.0	109	.796	.92
September	573.4	91	5.3	19.1	.139	.16
Water year						

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 8-16, 20-22, Jan. 28 to Feb. 1, Feb. 4 to Mar. 3. Backwater from aquatic vegetation Nov. 1-27, Sept. 20-30; discharge computed on basis of gage heights and four discharge measurements.

Monongahela River at Greensboro, Pa.

Location.- Water-stage recorder, lat. 39°47'15", long. 79°55'15", 750 feet upstream from dam at lock 7, at Greensboro, Greene County, 0.1 mile upstream from George Creek, 2.2 miles downstream from Dunkard Creek, and 4.3 miles downstream from Cheat River. Datum of gage is 767.55 feet above mean sea level, adjustment of 1912.

Drainage area.- 4,407 square miles.

Records available.- January 1939 to September 1941.

Extremes.- Maximum discharge during year (regulated), 117,000 second-feet June 4 (gage height, 24.28 feet), from rating curve extended above 80,000 second-feet; minimum daily (regulated), 480 second-feet Aug. 8.
1939-41: Maximum discharge, 125,000 second-feet Feb. 4, 1939 (gage height, 25.72 feet), from rating curve extended above 70,000 second-feet; minimum daily, 432 second-feet Jan. 7, 1940.
Flood of Mar. 18, 1936, reached a stage of 28.4 feet (discharge not determined).

Remarks.- Records good except those below 5,000 second-feet, which are fair. Regulation by Tygart Reservoir and Lake Lynn (combined capacity, 351,338 acre-feet).

Cooperation.- Record of contents in Tygart Reservoir furnished by Corps of Engineers, U. S. Army. Record of contents in Lake Lynn furnished by West Penn Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,490	6,540	9,370	10,600	8,920	1,610	4,360	1,250	1,030	2,460	940	5,010
2	2,590	15,800	12,300	10,500	6,090	1,280	5,060	1,400	2,050	3,880	820	5,720
3	2,220	13,200	11,100	14,100	6,420	2,390	7,590	1,340	9,130	6,580	722	3,780
4	2,810	8,540	6,790	17,500	5,120	9,900	6,970	810	77,100	14,000	1,400	3,260
5	1,490	8,580	6,830	10,400	4,050	15,800	15,600	1,010	72,400	19,400	920	8,250
6	1,220	7,830	7,900	9,040	3,990	13,600	28,800	805	32,700	20,800	950	13,600
7	2,140	7,290	6,210	8,020	4,420	11,500	27,000	1,110	21,600	21,300	668	5,700
8	2,300	7,440	4,880	7,000	4,600	8,240	22,800	1,370	10,700	21,200	480	5,540
9	2,440	4,730	8,080	6,730	2,440	6,630	18,000	2,120	8,960	16,500	512	4,380
10	2,120	2,600	7,050	5,240	2,940	10,400	12,400	1,460	8,680	9,240	496	4,580
11	1,920	2,250	5,960	3,800	3,410	13,300	8,780	1,120	5,300	5,420	528	4,850
12	2,160	3,700	7,000	2,760	3,460	27,500	6,940	1,680	5,530	2,830	1,450	6,460
13	1,630	3,540	8,980	3,830	4,140	20,400	3,200	1,330	12,600	1,840	2,070	4,900
14	1,580	4,320	11,800	2,980	4,060	15,200	5,300	1,510	6,560	2,600	2,460	2,450
15	2,000	4,500	10,600	3,210	3,990	10,800	5,160	1,480	3,910	2,010	2,150	2,760
16	1,010	3,040	11,500	5,560	3,530	9,520	4,480	2,080	6,180	2,320	7,680	2,780
17	1,590	2,180	11,800	14,100	4,280	10,100	3,800	5,830	9,230	2,210	2,270	2,150
18	1,360	2,760	10,400	15,700	4,000	9,040	3,070	10,700	16,900	2,000	1,960	2,340
19	935	4,060	9,100	9,430	3,500	7,750	2,470	9,460	10,700	1,740	6,610	2,000
20	1,040	4,500	7,940	8,770	3,350	8,550	2,070	6,680	7,350	1,390	10,600	1,810
21	1,500	2,380	4,540	7,640	2,960	8,470	2,620	4,260	4,390	1,540	5,260	1,840
22	1,460	4,190	2,180	8,120	1,960	8,540	2,700	4,000	2,760	1,500	4,160	1,660
23	1,740	4,580	4,880	7,900	1,540	7,080	2,260	3,150	3,540	1,340	3,560	1,300
24	2,300	3,380	3,120	11,100	1,930	9,120	2,660	2,280	3,240	1,400	1,910	1,430
25	1,700	8,520	2,430	18,800	2,250	10,900	1,960	1,670	3,760	1,330	4,140	1,460
26	1,400	11,900	4,480	13,200	2,170	12,200	1,790	2,060	3,650	880	9,910	1,310
27	965	29,400	5,980	17,300	3,200	9,900	1,220	2,050	2,150	820	25,100	1,120
28	1,070	21,900	5,220	21,400	3,160	9,500	1,460	2,060	984	1,410	21,000	880
29	1,620	18,700	7,500	17,300		6,720	1,200	1,820	860	1,440	16,000	1,400
30	3,500	15,900	17,300	13,800		4,030	1,470	945	1,800	2,210	11,800	890
31	6,760		16,700	10,800		6,150		1,140		1,770	5,410	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	61,060	6,760	935	1,970	-629	1,341	0.304	0.35
November	238,250	29,400	2,180	7,942	-146	7,796	1.77	1.97
December	249,720	17,300	2,180	8,055	-502	7,553	1.71	1.97
Calendar year 1940	3,165,471	67,800	432	8,649	+14.1	8,663	1.97	26.75
January	316,630	21,400	2,760	10,210	-48.0	10,160	2.31	2.66
February	105,880	8,920	1,540	3,781	-44.9	3,736	.848	.88
March	306,120	27,500	1,280	9,875	-60.5	9,815	2.23	2.57
April	213,190	28,800	1,200	7,106	+1,054	8,160	1.85	2.06
May	79,980	10,700	805	2,580	+674	3,254	.738	.85
June	355,744	77,100	860	11,860	+336	12,200	2.77	3.09
July	175,360	21,300	820	5,657	-334	5,323	1.21	1.40
August	153,936	25,100	480	4,966	+42.7	5,009	1.14	1.31
September	105,610	13,600	880	3,520	-680	2,840	.644	.72
Water year 1940-41	2,361,480	77,100	480	6,470	-29.8	6,440	1.46	19.83

∕ Change in contents in Tygart Reservoir and Lake Lynn; no corrections made for evaporation and seepage losses.

Monongahela River at Charleroi, Pa.

Location.- Water-stage recorder, lat. 40°08'30", long. 79°53'35", 1,100 feet upstream from dam at lock 4, at Charleroi, Washington County, and half a mile downstream from Maple Creek. Datum of gage is 735.33 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 5,213 square miles.
Records available.- March 1886 to March 1905 (fragmentary), October 1933 to September 1941 in reports of U. S. Geological Survey. October 1933 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Extremes.- Maximum discharge during year (regulated), 133,000 second-feet June 5 (gage height, 20.85 feet); minimum daily (regulated), 702 second-feet Aug. 10, 11.
1886-1905, 1933-1941: Maximum discharge, about 156,000 second-feet July 11, 1888 (gage height, 42.0 feet on lower gage at old lock downstream, or about 28.1 feet on present gage); minimum not determined.
Remarks.- Records good except those below 5,000 second-feet, which are fair. Regulation by Tygart Reservoir and Lake Lynn (combined capacity, 351,338 acre-feet), and by locks upstream.
Cooperation.- Results of one discharge measurement and record of contents in Tygart Reservoir furnished by Corps of Engineers, U. S. Army. Record of contents in Lake Lynn furnished by West Penn Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,690	6,610	12,200	14,300	10,200	3,300	5,880	1,730	1,820	2,180	1,850	4,800
2	2,600	13,700	11,200	11,000	9,180	1,960	4,110	1,560	3,300	3,060	1,260	5,600
3	2,490	16,200	11,200	13,800	6,900	1,930	6,580	1,630	4,500	5,270	1,010	4,640
4	2,350	9,870	8,650	17,500	6,700	5,420	7,140	1,490	67,000	13,600	1,090	4,080
5	2,430	8,420	6,460	13,500	4,920	15,800	14,100	1,030	117,000	14,800	1,340	5,990
6	1,560	8,300	6,870	9,620	4,800	13,200	28,000	1,180	46,600	19,600	1,100	14,800
7	1,520	7,150	8,180	8,800	4,800	11,700	29,700	1,140	24,200	21,000	1,030	9,500
8	2,110	7,250	5,860	7,800	5,130	10,300	24,000	1,380	14,900	22,400	864	5,420
9	2,270	6,110	7,030	7,250	4,360	7,020	19,600	1,750	9,080	18,200	772	5,080
10	2,350	4,060	7,980	6,370	3,080	8,430	13,800	2,240	8,800	11,600	702	4,220
11	2,060	2,490	6,600	4,760	3,590	12,900	9,770	1,730	7,100	7,310	702	5,420
12	1,930	2,930	6,660	4,100	3,660	27,700	8,630	1,430	5,290	4,230	981	5,860
13	2,070	3,860	7,980	3,360	4,150	23,200	5,480	1,750	9,760	2,840	1,430	4,940
14	1,660	3,790	11,000	3,840	4,600	17,500	4,090	1,560	9,960	2,290	2,280	4,280
15	1,750	4,260	11,700	3,460	4,000	12,800	5,380	1,630	5,780	2,660	2,240	2,600
16	1,630	4,000	10,800	4,140	4,330	10,800	5,130	1,730	5,500	2,270	4,420	2,870
17	1,120	2,960	12,200	7,800	4,000	10,800	4,220	3,660	7,410	2,660	3,790	2,690
18	1,430	2,400	11,100	16,100	4,330	9,900	3,760	9,020	14,200	2,400	2,320	2,240
19	1,340	3,270	9,900	12,900	3,930	8,550	3,120	10,400	13,400	2,090	3,270	2,380
20	1,010	4,110	8,550	8,800	3,620	8,440	2,660	7,790	8,550	1,960	10,800	2,140
21	1,160	3,850	7,440	8,300	3,420	8,800	2,520	5,460	5,770	1,730	7,580	1,980
22	1,490	2,910	4,630	7,800	2,790	8,540	2,780	4,260	4,080	1,730	4,260	1,960
23	1,560	3,970	3,810	9,080	2,290	7,530	2,660	3,690	3,390	1,680	3,970	1,680
24	1,700	4,340	4,660	10,500	1,960	9,080	2,960	3,110	3,720	1,450	2,780	1,450
25	2,160	5,340	3,080	21,000	2,520	10,200	2,780	2,320	3,390	1,610	3,000	1,410
26	1,660	10,700	3,240	16,800	2,460	12,600	2,220	2,030	3,860	1,470	6,050	1,340
27	1,430	31,400	4,940	15,400	2,570	10,200	2,110	2,270	3,260	1,180	24,400	1,340
28	1,200	25,600	6,990	21,700	3,420	9,780	1,520	2,270	2,130	1,250	24,000	1,100
29	1,360	20,300	9,100	19,600		9,350	1,830	2,240	1,410	1,730	16,400	1,050
30	2,680	17,500	17,500	16,100		5,510	1,730	1,850	1,430	1,880	12,800	1,140
31	5,980		19,600	12,800		4,990		1,180		2,570	8,710	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	60,750	5,980	1,010	1,960	-629	1,331	0.255	0.29
November	247,650	31,400	2,400	8,255	-146	8,109	1.56	1.74
December	267,110	19,600	3,080	8,616	-502	8,114	1.56	1.80
Calendar year 1940	3,444,180	87,400	674	9,410	+14.1	9,424	1.81	24.63
January	338,280	21,700	3,360	10,910	-48.0	10,860	2.08	2.40
February	121,710	10,200	1,960	4,347	-44.9	4,302	.825	.86
March	318,230	27,700	1,930	10,270	-60.5	10,210	1.96	2.26
April	228,260	29,700	1,520	7,609	+1,054	8,663	1.66	1.85
May	86,510	10,400	1,030	2,791	+674	3,465	.665	.77
June	416,590	117,000	1,410	13,890	+336	14,230	2.73	3.05
July	180,700	22,400	1,180	5,829	-334	5,495	1.05	1.21
August	157,201	24,400	702	5,071	+42.7	5,114	.981	1.13
September	114,000	14,800	1,050	3,800	-680	3,120	.599	.67
Water year 1940-41	2,536,991	117,000	702	6,951	-29.8	6,921	1.33	18.03

∕ Change in contents in Tygart Reservoir and Lake Lynn; no corrections made for evaporation and seepage losses.

Monongahela River at Braddock, Pa.

Location.- Water-stage recorder, lat. 40°23'25", long. 79°51'20", at Braddock, Allegheny County, 1,000 feet upstream from dam at lock 2, 1,000 feet downstream from Turtle Creek, and 11.2 miles upstream from confluence with Allegheny River. Datum of gage is 706.97 feet above mean sea level, adjustment of 1912.

Drainage area.- 7,337 square miles.

Records available.- January 1939 to September 1941.

Extremes.- Maximum discharge during year (regulated), 202,000 second-feet June 5 (gage height, 31.20 feet); minimum daily (regulated), 1,260 second-feet Aug. 12.
1939-41: Maximum discharge, that of June 5, 1941; minimum daily, 735 second-feet Oct. 14, 1939.
Maximum stage known, 38.8 feet Mar. 18, 1936 (discharge not determined).

Remarks.- Records good. Regulation by locks and hydroelectric plants and by Tygart Reservoir, Lake Lynn, and Deep Creek Reservoir (combined capacity, 457,399 acre-feet).

Cooperation.- Results of four discharge measurements and record of Tygart Reservoir contents furnished by Corps of Engineers, U. S. Army. Records of contents in Deep Creek Reservoir and Lake Lynn furnished by Youghiogheny Hydro-Electric Corp. and West Penn Power Co. respectively.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,870	9,900	18,900	22,800	14,100	5,420	10,500	3,300	3,230	3,260	3,750	7,450
2	3,950	14,400	15,600	17,200	13,000	4,320	9,050	2,940	6,120	3,950	2,870	6,900
3	3,950	25,500	17,200	22,000	10,500	3,830	10,200	2,870	7,200	6,040	2,350	6,800
4	3,560	17,400	14,600	26,200	10,200	7,720	12,000	2,770	58,900	15,200	2,060	6,050
5	3,560	12,400	10,200	23,600	8,220	23,200	23,300	2,480	186,000	21,200	2,190	7,950
6	2,870	12,000	10,500	16,000	7,450	20,400	45,600	2,350	95,100	24,400	2,030	17,800
7	2,340	11,100	12,000	14,100	8,220	17,200	43,400	2,350	46,400	24,400	2,030	16,200
8	2,480	10,200	11,400	12,000	9,050	15,200	34,400	2,030	26,200	27,100	1,730	9,320
9	2,910	9,600	12,000	10,800	8,500	12,000	h28,000	2,450	16,000	23,600	1,520	7,950
10	3,260	6,950	13,000	10,500	6,800	10,800	21,200	3,080	13,400	16,800	1,430	7,450
11	2,770	5,100	11,400	8,780	7,200	16,300	16,400	3,120	11,700	11,100	1,370	8,220
12	2,610	4,400	11,100	7,450	7,950	29,200	13,800	2,740	8,780	7,450	1,260	7,950
13	2,510	5,470	11,700	6,250	9,050	29,800	10,800	2,640	12,900	5,010	1,730	7,700
14	2,190	5,850	16,000	6,800	h10,200	23,600	7,700	2,570	18,000	4,070	2,840	h6,500
15	1,550	6,400	18,400	6,300	h9,050	18,800	8,500	2,640	12,400	4,700	4,960	h4,440
16	2,290	6,750	15,600	6,700	9,050	16,000	8,500	3,150	9,900	4,110	6,200	h4,030
17	2,380	5,470	18,000	11,700	7,950	15,600	7,450	5,000	11,700	3,990	7,020	h3,990
18	2,250	4,490	18,000	19,200	7,450	13,800	6,900	12,400	21,700	3,870	4,030	h3,670
19	2,350	4,570	15,200	19,600	6,650	12,000	6,000	15,600	26,200	3,560	5,190	h3,480
20	2,160	5,900	13,400	13,000	5,950	12,400	5,190	12,400	17,600	3,050	13,000	h3,410
21	1,820	6,550	12,000	11,700	5,760	13,000	4,570	9,050	12,000	2,910	12,400	h3,120
22	2,030	5,100	9,600	10,800	5,610	14,100	4,700	6,950	8,500	2,700	7,700	h3,050
23	2,290	6,150	6,950	13,000	4,790	16,000	4,700	6,150	6,750	2,670	5,810	h2,870
24	2,640	6,850	7,950	15,800	4,360	16,400	4,790	5,380	6,500	2,540	4,750	h2,540
25	3,080	6,500	6,600	27,100	4,570	18,400	5,100	4,490	6,100	2,510	4,150	h2,320
26	3,010	12,900	5,810	25,300	5,060	20,000	4,570	3,560	6,250	2,450	6,590	h2,250
27	2,450	34,000	7,200	20,400	5,060	17,200	4,030	3,480	5,660	2,250	26,900	h2,380
28	1,910	h33,600	11,500	28,000	5,760	15,600	3,480	3,410	4,400	2,060	31,600	h2,130
29	1,790	h26,200	16,400	24,400		14,800	3,330	3,410	3,260	2,350	21,200	h1,970
30	3,060	h22,000	23,700	20,400		11,700	3,480	3,520	2,870	2,980	16,400	h2,160
31	7,800		28,900	17,200		9,050		2,840		4,360	12,400	

Month	Observed				Change in contents ✓ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	87,590	7,800	1,550	2,825	-792.9	2,032	0.277	0.32
November	343,700	34,000	4,400	11,460	-226.9	11,230	1.53	1.71
December	420,810	28,900	5,810	13,570	-504.4	13,070	1.78	2.05
Calendar year 1940	5,023,090	105,000	1,290	13,720	+39.5	13,760	1.88	25.54
January	493,080	28,000	6,250	15,970	-133.1	15,840	2.16	2.49
February	217,510	14,100	4,360	7,768	-176.1	7,592	1.03	1.07
March	473,840	29,800	3,830	15,290	+13.6	15,300	2.09	2.41
April	371,640	45,600	3,330	12,390	+1,151.5	13,540	1.85	2.06
May	141,120	15,600	2,030	4,552	+725.5	5,278	.719	.83
June	671,720	186,000	2,870	22,390	+531.9	22,920	3.12	3.48
July	246,640	27,100	2,060	7,956	-311.4	7,645	1.04	1.20
August	219,460	31,600	1,260	7,079	-91.0	6,988	.952	1.10
September	172,050	17,800	1,970	5,735	-914.9	4,820	.657	.73
Water year 1940-41	3,861,160	186,000	1,260	10,580	-61.9	10,520	1.43	19.45

✓ Adjusted for change in contents in Tygart Reservoir, Lake Lynn, and Deep Creek Reservoir; no corrections made for evaporation and seepage losses.
h Computed from tape gage and staff gage readings.

Dunkard Creek at Shannopin, Pa.

Location.- Water-stage recorder, lat. 39°45'30", long. 79°58'20", at Shannopin, Greene County, 1.4 miles north of Dunkard, 3.5 miles upstream from mouth, and 4 miles southwest of Greensboro.

Drainage area.- 229 square miles.

Records available.- December 1940 to September 1941.

Extremes.- Maximum discharge during period, 16,800 second-feet June 4 (gage height, 14.02 feet); minimum, 6.7 second-feet July 2 (gage height, 1.02 feet); minimum daily, 7.8 second-feet July 1, Sept. 30.

Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair. Some regulation at low flow by mine pumps upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				550	284	42	87	35	17.5	7.8	29	68
2				397	289	42	81	33	37	22	22	56
3				438	259	52	74	31	686	272	25	50
4				397	205	577	70	30	10,700	1,760	33	58
5				282	*163	513	880	28	8,760	782	21	200
6				209	158	310	834	27	1,140	315	15.0	540
7				155	156	232	460	25	423	696	11.9	350
8				*135	137	197	322	37	237	553	9.2	210
9				110	114	183	250	49	156	256	8.8	140
10				105	103	167	201	62	112	195	9.2	123
11				98	104	1,080	189	54	80	88	8.8	248
12				94	85	1,750	160	42	65	63	15.5	202
13				90	75	679	129	36	58	141	20	117
14				85	78	438	111	31	76	62	16.0	79
15				75	79	410	96	28	72	41	83	59
16				98	72	452	85	31	64	62	233	43
17				300	64	452	78	170	123	201	115	35
18				358	59	311	74	418	335	88	54	28
19				298	50	261	67	203	196	59	783	24
20				210	40	250	60	117	104	38	869	20
21				158	35	245	51	78	62	28	254	18.0
22				161	33	*217	44	56	43	24	80	16.0
23				236	33	185	42	56	32	19.0	35	14.0
24				522	34	177	62	69	25	16.0	20	12.3
25				*2,180	36	193	81	65	20	13.1	43	12.3
26				730	45	179	64	47	17.5	12.3	300	11.1
27				1,530	47	152	54	34	15.5	45	1,200	10.3
28				1,640	44	133	45	27	12.7	27	420	9.5
29			*1,500	684		117	41	22	11.1	17.0	250	8.4
30			2,100	446		103	37	20	9.5	52	160	7.8
31			1,120	334		92		16.5		30	100	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January	13,105	2,180	75	423	1.85	2.13
February	2,881	289	33	103	.450	.47
March	10,191	1,750	42	329	1.44	1.66
April	4,829	880	37	161	.703	.78
May	1,977.5	418	16.5	63.8	.279	.32
June	23,689.8	10,700	9.5	790	3.45	3.85
July	5,985.2	1,760	7.8	193	.843	.97
August	5,243.4	1,200	8.8	169	.738	.85
September	2,769.7	540	7.8	92.3	.403	.45
Water year						

Peak discharge.- Jan. 25 (6 a.m.) 3,000 sec.-ft.; Jan. 27 (11 p.m.) 2,550 sec.-ft.; June 4 (12 p.m.) 16,800 sec.-ft.
Note.- Stage-discharge relation affected by ice Jan. 7-15, Feb. 19-25. No gage-height record Aug. 22 to Sept. 8; discharge computed on basis of occasional gage heights and records for South Fork of Tenmile Creek at Jefferson.

South Fork of Tenmile Creek at Jefferson, Pa.

Location.- Water-stage recorder and masonry control, lat. 39°55'25", long. 80°04'25", at highway bridge 1 mile southwest of Jefferson, Greene County, and 3¼ miles downstream from Ruff Creek. Datum of gage is 852.54 feet above mean sea level, adjustment of 1907.

Drainage area.- 180 square miles.

Records available.- October 1931 to September 1941.

Extremes.- Maximum discharge during year, 13,800 second-feet June 4 (gage height, 18.45 feet), by slope-area method; minimum, 0.76 second-foot Aug. 12, 13 (gage height, 0.58 foot).
1931-41: Maximum discharge, that of June 4, 1941; minimum observed, about 0.05 second-foot Sept. 3, 1938 (gage height, 0.36 foot).

Remarks.- Records good.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17.0	276	226	484	241	42	79	30	217	12.5	8.9	20
2	15.0	1,230	168	381	317	41	75	28	475	59	8.6	17.0
3	15.5	400	134	420	253	74	68	26	834	276	6.4	16.0
4	12.5	206	100	307	197	259	67	23	6,870	532	4.80	128
5	12.5	143	107	218	168	145	742	20	5,970	220	4.05	301
6	10.5	131	105	177	168	115	600	19.0	935	114	3.30	693
7	9.4	113	189	151	171	102	339	18.0	412	124	3.00	208
8	9.2	86	406	132	143	90	238	31	270	124	2.60	113
9	10.5	68	259	129	113	97	189	57	172	81	1.90	74
10	10.0	57	203	120	100	84	154	50	122	51	1.80	205
11	9.7	71	157	110	90	623	131	35	90	37	1.40	854
12	9.2	174	131	100	86	853	113	28	81	30	.90	178
13	7.7	131	171	100	90	395	97	24	273	123	.85	96
14	6.7	107	218	90	88	277	88	20	267	51	1.10	62
15	6.2	97	189	82	90	317	79	19.0	264	32	1.50	41
16	5.7	95	289	207	75	348	71	19.0	233	24	2.50	30
17	6.7	84	358	450	71	320	70	163	183	19.5	4.45	24
18	7.0	77	244	342	62	194	66	180	523	17.5	2.90	19.5
19	7.4	70	192	250	54	186	61	84	186	16.5	82	17.0
20	13.5	68	183	171	46	180	54	56	114	16.0	182	14.5
21	19.0	68	171	143	42	192	49	42	81	15.0	49	12.5
22	19.0	64	143	163	42	163	43	32	62	13.5	25	11.5
23	14.0	61	126	320	43	143	41	33	50	10.5	15.5	9.4
24	11.5	69	105	1,110	43	145	80	34	41	8.6	11.0	7.7
25	11.5	100	97	1,660	50	154	68	27	36	7.2	15.5	6.4
26	11.5	700	102	592	51	134	53	21	28	7.3	142	3.60
27	13.5	2,650	105	861	47	118	46	17.0	22	12.0	671	2.90
28	13.0	700	587	759	44	107	41	15.0	18.0	9.7	148	3.85
29	9.4	388	1,610	457		100	38	13.5	16.0	18.0	72	3.70
30	467	280	1,820	323		86	34	11.5	14.5	9.7	40	3.00
31	263		835	256		82		12.5		8.9	27	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,054.3	467	5.7	34.0	0.189	0.22
November	8,764	2,650	57	292	1.62	1.81
December	9,730	1,820	97	314	1.74	2.01
Calendar year 1940	105,948.4	3,840	1.80	289	1.61	21.88
January	11,065	1,660	82	357	1.98	2.28
February	2,985	317	42	107	.594	.62
March	6,166	853	41	199	1.11	1.28
April	3,874	742	34	129	.717	.80
May	1,188.5	180	11.5	38.3	.213	.25
June	18,859.5	6,870	14.5	629	3.49	3.89
July	2,080.4	532	7.2	67.1	.373	.43
August	1,540.95	671	.85	49.7	.276	.32
September	3,175.55	854	2.90	106	.589	.66
Water year 1940-41	70,483.20	6,870	.85	193	1.07	14.57

Youghiogheny River at Youghiogheny River Dam, Pa.

Location.- Water-stage recorder, lat. 39°48'20", long. 79°21'50", a quarter of a mile downstream from Youghiogheny River Dam, Somerset County, a quarter of a mile south of Confluence, and 0.7 mile upstream from Casselman River. Datum of gage is 1,310.17 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 436 square miles.
Records available.- September 1904 to December 1910, January 1911 to September 1913 (gage heights only), March 1940 to September 1941 in reports of U. S. Geological Survey. September 1904 to September 1914, October 1914 to September 1922 (gage heights only), March 1940 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Extremes.- Maximum discharge during year (regulated), 11,100 second-feet June 4 (gage height, 15.94 feet, affected by backwater from Casselman River); minimum (regulated), 62 second-feet Sept. 29 (gage height, 3.10 feet); minimum daily (regulated), 112 second-feet Sept. 22.
1904-22, 1940-41: Maximum gage height observed, 19.00 feet Mar. 14, 1907, site and datum then in use (discharge not determined; previously published figure probably in error owing to backwater from Casselman River); minimum discharge observed, about 12 second-feet Sept. 27, 1922.
Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Deep Creek Reservoir (capacity, 4,620,000,000 cubic feet).
Cooperation.- Results of three discharge measurements furnished by Corps of Engineers, U. S. Army. Records of reservoir contents furnished by Youghiogheny Hydro-Electric Corp.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	549	554	c1,460	1,030	649	582	930	167	181	379	364	330
2	470	1,860	1,630	1,170	564	457	952	162	229	374	380	356
3	427	1,610	1,400	2,630	500	550	1,060	157	412	1,490	344	483
4	401	1,010	1,070	2,170	460	2,870	1,050	153	5,950	2,560	174	476
5	346	914	1,120	1,400	410	2,280	4,000	143	8,280	4,190	396	566
6	168	935	*932	1,050	530	1,400	3,690	139	3,640	2,750	323	980
7	160	832	745	920	*749	1,060	2,520	139	2,080	2,060	289	702
8	458	665	1,020	870	575	878	1,660	143	1,390	2,520	260	492
9	447	510	1,020	*835	502	846	1,280	176	953	1,770	258	482
10	362	390	909	820	380	765	1,030	288	700	1,150	175	556
11	293	348	878	640	420	878	836	245	568	909	114	519
12	270	376	755	540	480	878	696	191	681	722	574	464
13	149	554	1,050	600	600	755	602	242	1,420	976	529	360
14	124	551	1,450	610	785	630	527	184	1,100	876	378	279
15	319	590	1,120	550	1,020	825	527	153	843	678	307	180
16	379	321	1,100	580	920	846	510	420	986	550	562	342
17	233	383	1,620	680	785	952	467	828	1,060	432	531	371
18	330	308	1,260	1,180	690	815	355	1,710	2,810	304	314	372
19	312	514	1,060	1,070	630	903	321	1,060	2,340	374	826	346
20	207	562	963	898	573	*834	314	725	1,470	279	1,610	306
21	142	566	913	696	*564	1,230	327	554	997	238	1,060	155
22	381	510	751	805	573	2,110	289	442	690	286	670	112
23	351	422	771	1,240	482	2,170	334	405	568	290	561	329
24	350	433	703	1,380	414	2,340	336	361	711	242	440	332
25	323	1,090	630	1,510	540	2,340	426	321	558	292	404	316
26	139	1,070	476	1,300	702	1,700	390	264	408	329	1,370	272
27	252	1,340	804	1,070	642	1,370	244	234	361	249	2,340	306
28	126	c1,940	920	985	653	1,300	223	240	267	200	1,640	222
29	401	c1,420	1,220	867		1,220	348	208	304	292	887	121
30	595	c1,130	1,350	867		1,040	177	202	326	310	595	324
31	700		1,320	846		1,010		181		364	540	

Month	Observed: Second-foot-days	Observed: Maximum	Observed: Minimum	Observed: Mean	Change in contents / (mean second-feet)	Adjusted for change in reservoir contents: Mean	Adjusted for change in reservoir contents: Per square mile	Adjusted for change in reservoir contents: Run-off in inches
October	10,164	700	124	328	-164	164	0.376	0.43
November	23,708	1,940	308	790	-81.0	709	1.63	1.82
December	32,420	1,630	476	1,046	-2.6	1,043	2.39	2.76
Calendar year								
January	31,809	2,630	540	1,026	-85.1	941	2.16	2.49
February	16,792	1,020	380	600	-131	469	1.08	1.12
March	37,834	2,870	457	1,220	+74.1	1,294	2.97	3.42
April	26,421	4,000	177	881	+97.4	978	2.24	2.50
May	10,837	1,710	139	350	+51.3	401	.920	1.06
June	42,283	8,280	181	1,409	+196	1,605	3.68	4.11
July	28,535	4,190	200	920	+22.4	942	2.16	2.49
August	19,215	2,340	114	620	-134	486	1.11	1.28
September	11,451	980	112	382	-234	148	.339	.38
Water year 1940-41	291,469	8,280	112	799	-32.0	767	1.76	23.86

* Winter discharge measurement made on this day.
/ Change in contents in Deep Creek Reservoir; no corrections made for evaporation and seepage.
c Backwater from leaves; discharge computed on basis of three discharge measurements and gage heights.
Note.- Stage-discharge relation affected by ice Jan. 5-17, Feb. 3-6, 10-13. Backwater from Casselman River Apr. 5, 6, June 4-7; discharge computed on basis of five discharge measurements, gage heights, and records for stations downstream.

Youghiogheny River below Confluence, Pa.

Location.- Water-stage recorder, lat. 39°49'40", long. 79°22'25", 1.0 mile downstream from Casselman River and 1¼ miles downstream from Confluence, Somerset County. Datum of gage is 1,302.77 feet above mean sea level (unadjusted).
Drainage area.- 1,029 square miles.
Records available.- June 1940 to September 1941.
Extremes.- Maximum discharge during year (regulated), 43,800 second-feet June 4 (gage height, 16.42 feet), from rating curve extended above 25,000 second-feet by logarithmic plotting; minimum (regulated), 108 second-feet Sept. 29 (gage height, 0.71 foot); minimum daily (regulated), 171 second-feet Aug. 11.
1940-41: Maximum discharge, that of June 4, 1941; minimum, that of Sept. 29, 1941; minimum daily (regulated), 169 second-feet Aug. 25, 1940.
Maximum stage known, about 21.6 feet Mar. 17 or 18, 1936 (discharge not determined).
Remarks.- Records good. Flow regulated by Deep Creek Reservoir (capacity, 4,620,000,000 cubic feet).
Cooperation.- Results of three discharge measurements furnished by Corps of Engineers, U. S. Army. Records of change in reservoir contents furnished by Youghiogheny Hydro-Electric Corp.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	796	1,340	2,960	2,760	1,350	1,010	2,830	435	678	670	666	568
2	731	5,420	3,510	3,060	1,250	782	3,140	415	1,400	641	608	532
3	668	4,240	2,780	5,750	1,140	1,080	3,460	395	1,350	1,790	532	637
4	626	2,540	2,070	4,790	984	7,180	3,300	375	22,500	3,710	295	636
5	562	2,040	a2,200	3,370	911	5,170	12,300	375	28,600	6,350	508	1,270
6	381	2,040	a2,000	2,690	1,220	3,220	9,760	339	9,920	3,560	444	2,150
7	362	1,860	1,680	2,200	1,520	2,390	6,460	312	5,560	2,750	376	1,340
8	643	1,480	3,210	2,010	1,170	1,920	4,500	362	3,690	3,930	342	840
9	636	1,220	2,760	1,880	1,010	1,800	3,540	466	2,690	2,560	338	752
10	569	968	2,550	1,800	874	1,680	2,900	681	2,010	1,630	239	755
11	472	868	2,900	1,530	994	1,860	2,390	580	1,560	1,200	171	739
12	442	926	2,550	1,240	1,100	1,800	1,990	470	1,770	992	746	644
13	304	1,140	3,880	1,370	1,580	1,480	1,740	502	3,770	1,200	776	535
14	279	1,090	4,370	1,280	1,940	1,270	1,480	430	3,050	1,160	584	415
15	460	1,260	3,290	1,270	2,620	1,560	1,390	400	2,340	919	458	292
16	509	960	3,290	1,330	2,230	1,990	1,240	1,020	2,550	789	761	453
17	380	1,010	4,430	1,460	1,820	2,060	1,140	2,190	3,050	896	825	473
18	474	831	3,370	2,270	1,460	1,500	944	3,300	7,250	602	487	464
19	474	1,060	2,760	2,140	1,310	1,620	856	2,120	5,380	642	1,140	442
20	382	1,150	2,480	1,510	1,180	1,680	791	1,480	3,210	546	2,160	400
21	330	1,200	2,340	1,200	1,110	2,900	757	1,140	2,270	470	1,360	232
22	560	1,080	1,940	1,500	1,120	5,260	669	912	1,690	472	837	177
23	537	952	1,750	3,120	987	5,660	687	904	1,350	460	711	392
24	529	1,070	1,570	3,450	888	6,060	807	936	1,530	408	594	410
25	512	2,100	1,410	3,050	1,100	6,060	880	718	1,290	453	525	390
26	358	1,920	1,340	2,620	1,170	4,410	764	609	910	486	1,930	335
27	450	2,210	1,910	2,140	1,200	3,630	580	536	790	436	4,330	376
28	323	3,100	3,180	2,010	1,160	3,800	536	514	644	355	2,500	288
29	573	2,410	4,010	1,690		3,540	538	450	662	466	1,250	174
30	1,590	2,010	3,770	1,510		2,900	455	574	656	506	868	386
31	1,920		3,370	1,500		2,760		591		592	775	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	17,832	1,920	279	575	-164	411	0.399	0.46
November	51,495	5,420	831	1,716	-81.0	1,635	1.59	1.77
December	85,630	4,430	1,340	2,762	-2.6	2,759	2.68	3.09
Calendar year								
January	69,500	5,750	1,200	2,242	-85.1	2,157	2.10	2.42
February	36,398	2,620	874	1,300	-131	1,169	1.14	1.19
March	90,032	7,180	782	2,904	+74.1	2,978	2.89	3.33
April	71,924	12,300	455	2,397	+97.4	2,494	2.42	2.70
May	24,531	3,300	312	791	+51.3	842	.818	.94
June	124,120	28,600	644	4,137	+196	4,333	4.21	4.70
July	41,641	6,350	355	1,343	+22.4	1,365	1.33	1.53
August	28,136	4,330	171	908	-134	774	.752	.87
September	17,497	2,150	174	583	-234	349	.339	.38
Water year 1940-41	658,736	28,600	171	1,805	-32.0	1,773	1.72	23.38

∕ Change in contents in Deep Creek Reservoir; no corrections made for evaporation and seepage losses.
a No gage height record; discharge computed on basis of records for stations at Youghiogheny River Dam, Connellsville, and Sutersville.

Youghiogheny River at Connellsville, Pa.

Location.- Water-stage recorder, lat. 40°01'05", long. 79°35'40", at Crawford Avenue Bridge in Connellsville, Fayette County, three-quarters of a mile upstream from Mounts Creek. Datum of gage is 860.13 feet above mean sea level (Baltimore & Ohio Railroad bench mark).
Drainage area.- 1,326 square miles.
Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. July 1908 to September 1941 in reports of Pennsylvania Department of Forests and Waters.
Average discharge.- 32 years (1908-18, 1919-41), 2,485 second-feet (subsequent to 1938, adjusted for change in contents in Deep Creek Reservoir).
Extremes.- Maximum discharge during year (regulated), 63,600 second-feet June 5 (gage height, 17.02 feet); minimum (regulated), 199 second-feet Aug. 11 (gage height, 0.97 foot); minimum daily (regulated), 252 second-feet Sept. 22.
1908-41: Maximum discharge (regulated), 92,500 second-feet Mar. 18, 1936 (gage height, 20.28 feet), from rating curve extended above 55,000 second-feet; minimum, 11 second-feet Sept. 23, 26, 27, 1908, Oct. 18, 1910 (gage height, 0.11 foot).
Remarks.- Records excellent except those for periods of backwater, which are good. Flow regulated by power plants and reservoirs upstream of which Deep Creek Reservoir is the only large one (capacity, 4,620,000,000 cubic feet).
Cooperation.- Records of reservoir contents furnished by Youghiogheny Hydro-Electric Corp. Results of one discharge measurement furnished by Corps of Engineers, U. S. Army. Results of one discharge measurement furnished by West Penn Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	899	1,830	3,430	3,760	1,730	1,200	3,300	626	1,030	848	802	769
2	836	6,640	4,650	3,760	1,580	885	3,660	604	2,350	823	698	662
3	754	6,000	3,570	6,930	1,510	1,290	4,040	570	2,050	1,250	595	776
4	692	3,440	2,720	6,450	1,280	7,780	3,850	522	26,900	3,560	397	978
5	625	2,660	2,720	4,540	1,030	6,960	14,500	640	45,100	7,230	458	2,460
6	506	2,560	2,420	3,390	1,260	4,240	14,100	503	15,700	4,720	482	3,960
7	399	2,390	2,270	2,800	1,920	3,220	8,690	464	8,200	3,430	412	2,490
8	573	1,940	3,940	2,340	1,590	2,640	6,210	556	5,190	4,620	351	1,460
9	709	1,600	3,660	2,260	1,270	2,420	4,760	674	3,660	3,440	344	1,170
10	620	1,290	3,220	2,190	1,090	2,190	3,850	970	2,720	2,160	318	1,100
11	512	1,170	3,390	1,980	1,180	2,490	3,220	923	2,120	1,610	265	1,180
12	465	1,170	3,040	1,480	1,370	2,640	2,800	754	1,920	1,300	552	937
13	429	1,400	3,960	1,660	1,790	2,260	2,340	692	4,400	1,230	954	762
14	310	1,310	5,300	1,530	2,400	1,910	1,980	677	4,040	1,420	736	570
15	344	1,480	4,140	1,470	3,300	1,980	1,840	612	3,220	1,160	492	464
16	524	1,240	3,760	1,600	3,040	2,720	1,690	932	3,240	996	806	480
17	438	1,240	5,300	1,810	2,340	2,880	1,570	2,800	4,010	977	836	546
18	464	1,050	4,140	2,650	1,900	2,330	1,340	4,350	10,000	824	664	526
19	498	1,230	3,390	2,880	1,420	1,990	1,200	3,230	7,820	716	1,160	510
20	482	1,340	2,960	2,120	1,430	2,350	1,110	2,190	4,650	674	2,320	438
21	412	1,420	2,800	1,510	1,390	3,140	1,080	1,730	3,220	556	2,020	372
22	480	1,340	2,420	1,740	1,360	6,040	923	1,390	2,420	502	1,130	252
23	569	1,210	2,120	3,170	1,180	6,880	946	1,360	1,870	506	912	275
24	575	1,180	1,980	4,540	1,130	7,920	1,120	1,450	1,790	470	686	433
25	542	2,060	1,780	4,140	1,270	7,920	1,180	1,140	1,750	471	558	428
26	505	2,340	1,570	3,480	1,320	5,860	1,060	932	1,290	480	1,740	356
27	438	2,860	2,040	2,880	1,490	4,650	858	819	1,060	502	6,390	387
28	437	4,010	3,360	2,560	1,410	4,540	778	715	862	423	3,750	338
29	506	3,040	5,520	2,190		4,340	820	677	762	522	1,920	298
30	1,970	2,720	5,520	1,860		3,660	724	700	795	600	1,220	259
31	2,710		4,650	1,810		3,220		879		757	1,070	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	20,223	2,710	310	652	-164	488	0.368	0.42
November	65,160	6,640	1,050	2,172	-81.0	2,091	1.58	1.76
December	105,740	5,520	1,570	3,411	-2.6	3,408	2.57	2.96
Calendar year 1940	1,047,503	28,200	204	2,862	+25.4	2,887	2.18	29.63
January	87,480	6,930	1,470	2,822	-85.1	2,737	2.06	2.37
February	44,980	3,300	1,030	1,606	-131	1,475	1.11	1.16
March	114,545	7,920	885	3,695	+74.1	3,769	2.84	3.27
April	95,539	14,500	724	3,185	+97.4	3,282	2.48	2.77
May	35,081	4,350	464	1,132	+51.3	1,183	.892	1.03
June	174,139	45,100	762	5,805	+196	6,001	4.53	5.05
July	48,782	7,230	428	1,574	+22.4	1,596	1.20	1.38
August	35,038	6,390	265	1,130	-134	996	.751	.87
September	25,636	3,960	252	855	-234	621	.468	.52
Water year 1940-41	852,343	45,100	252	2,335	-32.0	2,303	1.74	23.56

∕ Change in contents in Deep Creek Reservoir; no corrections made for evaporation and seepage losses.
Note.- Backwater from trash and debris July 19 to Aug. 27, Sept. 10-30; discharge computed on basis of three discharge measurements, gage heights, and records for stations below Confluence and at Sutersville.

Youghiogheny River at Sutersville, Pa.

Location.- Water-stage recorder, lat. 40°14'25", long. 79°48'25", 500 feet upstream from highway bridge at Sutersville, Westmoreland County, and 2.1 miles downstream from Sewickley Creek. Datum of gage is 733.14 feet above mean sea level, adjustment of 1907.

Drainage area.- 1,715 square miles.

Records available.- October 1931 to September 1936, December 1938 to September 1941 in reports of U. S. Geological Survey. June 1915 to September 1929, June 1931 to September 1936, December 1938 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 16 years (1920-29, 1931-36, 1939-41), 2,909 second-feet (subsequent to 1938, adjusted for change in contents in Deep Creek Reservoir).

Extremes.- Maximum discharge during year (regulated), 78,000 second-feet June 5 (gage height, 27.34 feet); minimum (regulated), 308 second-feet Aug. 11 (gage height, 2.58 feet); minimum daily (regulated), 393 second-feet Oct. 15.
1915-29, 1931-36, 1938-41: Maximum discharge (regulated), 100,000 second-feet Mar. 18, 1936 (gage height, 30.65 feet, from floodmarks), by slope-area method; minimum gage height, 1.96 feet July 10, 1918 (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by power plants and reservoirs upstream of which Deep Creek Reservoir is the only large one (capacity, 4,620,000,000 cubic feet).

Cooperation.- Records of reservoir contents furnished by Youghiogheny Hydro-Electric Corp. Results of one discharge measurement furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	872	2,400	3,260	5,140	2,230	1,650	3,520	843	1,460	980	1,010	1,240
2	976	5,400	*5,140	*4,690	2,160	1,300	3,800	789	2,870	960	963	910
3	899	7,690	4,360	7,790	*2,070	2,650	4,100	754	2,780	1,590	803	794
4	815	4,470	3,330	8,260	1,810	7,310	4,200	704	20,200	4,100	671	1,420
5	760	3,230	3,030	5,950	1,540	8,760	13,400	695	67,400	7,140	478	2,650
6	679	2,930	3,030	4,360	1,580	5,500	18,400	754	24,600	5,800	572	4,840
7	532	2,840	2,650	3,630	2,340	3,900	10,400	631	10,500	3,800	545	3,610
8	487	2,390	4,040	3,030	2,390	3,320	7,560	671	6,640	4,520	490	2,450
9	706	2,020	4,690	2,840	1,860	2,960	5,720	807	4,730	4,200	452	1,760
10	738	1,710	3,730	2,650	1,680	2,700	4,620	1,010	3,520	2,780	464	1,690
11	658	1,500	3,630	2,480	1,640	3,480	3,900	1,240	2,780	2,020	406	2,020
12	565	1,420	3,630	2,080	1,840	4,300	3,320	1,060	2,370	1,690	652	1,630
13	532	1,490	3,730	1,940	2,010	3,420	2,870	889	4,840	1,450	946	1,290
14	448	1,580	5,840	1,930	2,650	3,050	2,530	880	5,280	1,570	960	1,010
15	393	1,640	5,030	1,840	3,330	2,780	2,300	807	4,300	1,520	1,620	786
16	464	1,720	4,150	1,930	3,730	3,320	2,150	1,070	3,800	1,290	1,480	640
17	591	1,450	5,380	2,310	2,930	3,700	2,020	2,610	4,520	1,140	1,200	713
18	500	1,380	5,140	2,930	2,560	3,140	1,880	4,840	10,900	1,160	1,110	719
19	568	1,250	4,040	3,430	1,880	2,450	1,640	4,200	9,700	865	1,800	687
20	591	1,500	3,630	2,740	1,600	2,870	1,490	2,870	5,840	838	3,320	648
21	520	1,580	3,330	2,160	1,600	3,230	1,380	2,220	4,100	711	2,870	580
22	480	1,600	2,930	2,080	1,550	*5,630	1,310	1,880	3,140	632	1,820	484
23	604	1,480	2,560	2,840	1,500	7,100	1,200	1,760	2,530	602	1,290	400
24	630	1,410	2,390	5,490	1,400	7,560	1,390	1,820	2,150	588	1,100	445
25	630	1,790	2,160	5,600	1,700	7,790	1,490	1,580	2,150	545	1,090	573
26	617	3,330	2,020	4,690	1,750	6,640	1,460	1,310	1,760	559	1,630	531
27	526	5,380	2,080	3,840	1,900	5,170	1,300	1,110	1,410	588	6,920	490
28	526	5,030	3,630	3,430	1,800	4,730	1,050	974	1,210	610	4,950	497
29	506	4,150	6,870	2,930		4,730	965	880	1,020	510	2,790	445
30	1,230	3,530	7,560	2,480		4,200	1,070	1,300	1,040	798	1,860	400
31	3,230		6,640	2,310		3,610		1,200		1,270	1,410	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	22,273	3,230	393	718	-164	554	0.323	0.37
November	79,290	7,690	1,250	2,643	-81.0	2,562	1.49	1.66
December	123,530	7,560	2,020	3,985	-2.6	3,982	2.32	2.67
Calendar year 1940	1,282,813	35,300	339	3,505	+25.4	3,530	2.06	28.02
January	109,800	8,260	1,840	3,542	-85.1	3,457	2.02	2.33
February	57,030	3,730	1,400	2,037	-131	1,906	1.11	1.16
March	132,950	8,760	1,300	4,289	+74.1	4,363	2.54	2.93
April	112,435	18,400	965	3,748	+97.4	3,845	2.24	2.50
May	44,158	4,840	631	1,424	+51.3	1,475	.860	.99
June	219,540	67,400	1,020	7,318	+196	7,514	4.38	4.89
July	56,826	7,140	510	1,833	+22.4	1,855	1.08	1.25
August	47,672	6,920	406	1,538	-134	1,404	.819	.94
September	36,352	4,840	400	1,212	-234	978	.570	.64
Water year 1940-41	1,041,856	67,400	393	2,854	-32.0	2,822	1.65	22.33

* Winter discharge measurement made on this day.
∕ Adjusted for change in contents in Deep Creek Reservoir; no correction made for evaporation and seepage losses.
Note.- Stage-discharge relation affected by ice Feb. 20 to Mar. 2, Mar. 4.

Casselman River at Markleton, Pa.

Location.- Water-stage recorder, lat. 39°51'35", long. 79°13'40", at highway bridge at Markleton, Somerset County, 2 miles southwest of Casselman and 7 miles downstream from Coxes Creek. Datum of gage is 1,655.29 feet above mean sea level, adjustment of 1907. Prior to Nov. 18, 1940, chain gage at same site and datum.

Drainage area.- 382 square miles.

Records available.- August to September 1913, October 1920 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. August 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1920-41), 616 second-feet.

Extremes.- Maximum discharge during year, 18,700 second-feet June 5 (gage height, 10.24 feet); minimum, 25 second-feet Sept. 30 (gage height, 1.42 feet).
1913-41: Maximum discharge, 35,800 second-feet Mar. 17, 1936 (gage height, 16.4 feet, from floodmark), by slope-area method; minimum observed, 11 second-feet Aug. 13, 1930, July 23, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily prior to Nov. 18. Slight regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	365	915	941	414	210	1,240	184	406	165	161	103
2	162	2,180	1,040	1,160	350	200	1,430	176	668	146	122	92
3	152	1,200	767	1,780	300	330	1,460	165	618	150	86	83
4	135	682	500	1,350	250	2,900	1,320	157	9,460	534	71	91
5	118	584	600	960	280	1,600	6,130	146	12,100	814	64	408
6	104	695	490	784	320	1,030	3,760	143	3,590	431	57	372
7	109	549	*647	658	400	802	2,290	136	1,880	628	53	268
8	120	481	1,360	606	330	642	1,670	165	1,280	892	42	169
9	118	369	950	578	280	599	1,310	202	922	518	37	126
10	99	330	960	*618	240	557	1,080	294	695	365	34	100
11	87	318	1,210	450	260	585	941	234	550	284	36	100
12	84	357	1,020	380	300	518	793	184	611	248	150	81
13	76	346	1,770	310	370	443	688	161	1,320	231	190	66
14	76	318	1,640	330	520	408	599	154	894	298	99	59
15	72	449	1,220	280	700	478	537	146	672	204	66	57
16	69	417	1,380	290	540	703	485	453	672	197	211	51
17	65	369	1,690	340	400	592	461	784	754	377	189	51
18	76	398	1,200	537	320	381	420	811	2,330	204	100	48
19	78	*392	960	420	340	511	386	519	1,310	173	197	46
20	84	403	856	240	*330	*575	360	398	775	165	377	40
21	92	414	793	230	300	1,400	318	339	585	132	191	37
22	96	392	688	340	290	2,340	289	289	461	106	111	37
23	96	360	599	1,200	270	2,400	280	329	398	95	86	36
24	92	447	518	1,040	260	2,520	334	368	498	89	76	34
25	94	665	479	751	270	2,360	313	266	381	83	78	34
26	99	511	599	599	260	1,620	266	230	289	98	310	32
27	99	530	680	492	240	1,440	243	204	239	92	859	31
28	84	585	1,460	498	220	1,610	225	188	204	106	367	26
29	95	518	1,510	431		1,450	209	165	200	92	209	28
30	562	485	1,340	381		1,120	192	350	196	103	154	25
31	549		1,090	414		1,050		261		173	122	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,011	562	65	129	0.338	0.39
November	16,109	2,180	318	537	1.41	1.57
December	30,931	1,770	479	998	2.61	3.01
Calendar year 1940	280,644	8,250	51	767	2.01	27.33
January	19,288	1,780	230	622	1.63	1.88
February	9,354	700	220	334	.874	.91
March	33,374	2,900	200	1,077	2.82	3.25
April	30,029	6,130	192	1,001	2.62	2.92
May	8,600	811	136	277	.725	.84
June	44,958	12,100	196	1,499	3.92	4.37
July	8,193	892	83	264	.691	.80
August	4,905	859	34	158	.414	.48
September	2,731	408	25	91.0	.238	.27
Water year 1940-41	212,483	12,100	25	582	1.52	20.69

Peak discharge.- Apr. 5 (1 p.m.) 8,370 sec.-ft.; June 5 (12:30 a.m.) 18,700 sec.-ft.
* Winter discharge measurement made on this date.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 11-17, 19-23, Feb. 2 to Mar. 4.

Big Piney Run near Salisbury, Pa.

Location.- Water-stage recorder and concrete control, lat. 39°43'32", long. 79°02'57", and eighth of a mile upstream from Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2¾ miles southeast of Salisbury, Somerset County.
Drainage area.- 24.5 square miles.
Records available.- June 1932 to September 1941.
Extremes.- Maximum discharge during year, 1,260 second-feet June 4 (gage height, 5.38 feet), from rating curve extended above 320 second-feet; minimum, 0.33 second-foot Sept. 28, 29 (gage height, 1.04 feet).
1932-41: Maximum discharge, 4,300 second-feet Apr. 26, 1937 (gage height, 7.6 feet), from rating curve extended above 320 second-feet on basis of slope-area determination of flood of Mar. 17, 1936 (gage height, 7.5 feet; discharge, 4,100 second-feet); minimum, 0.18 second-foot Sept. 27, 28, 1939.
Remarks.- Records good except those for periods of ice effect and those for periods of no gage-height record, all of which are fair. Figures of daily discharge do not include diversions 3 miles upstream through pumps to city of Frostburg, Md., and from spring 700 feet upstream by gravity to city of Salisbury, Pa.
Cooperation.- Records furnished by U. S. Geological Survey, College Park, Md.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13.5	34	44	a45	b15.0	b10.0	78	8.2	8.8	6.4	3.0	4.2
2	12.5	145	44	a50	b14.0	b11.0	102	7.3	13.0	5.1	2.0	3.8
3	11.0	90	b38	a60	b13.0	b20	112	7.0	26	7.0	2.1	3.3
4	9.4	62	b33	a50	b12.0	b50	108	6.1	536	27	1.8	2.7
5	5.6	47	b30	a40	b12.0	b30	510	6.1	374	25	1.5	3.3
6	7.6	40	28	a35	b12.5	b25	225	5.6	155	14.0	1.6	5.4
7	7.0	32	32	a30	b13.0	b22	141	5.8	96	27	1.4	3.0
8	7.9	25	44	a25	b13.0	b20	106	6.4	65	28	1.3	1.8
9	6.4	22	38	a22	b11.0	b22	85	8.8	45	18.5	1.2	1.5
10	5.4	19.0	47	a20	b10.0	b21	69	8.8	33	13.5	.83	1.5
11	4.8	18.5	59	a18.5	9.7	b21	58	7.0	25	11.0	.75	1.5
12	4.6	24	59	a17.0	15	b21	48	5.6	41	10.0	5.2	1.2
13	4.8	19.0	110	a16.0	34	b20	40	5.1	58	8.5	3.4	1.0
14	4.2	21	102	a15.0	42	b18.0	36	5.1	43	7.9	1.7	.91
15	4.2	25	85	14.5	53	b20	31	5.4	32	8.5	8.9	.83
16	4.4	22	98	15.0	37	b21	27	24	35	6.7	14.5	.75
17	3.8	22	95	17.5	b25	19.5	24	24	39	7.3	4.2	.67
18	3.1	22	79	20	b20	a18.0	21	25	49	5.1	2.7	.60
19	4.0	23	64	15.0	b15.0	a20	19.5	19.5	36	6.4	7.0	.54
20	5.4	23	56	b14.0	b14.0	a30	18.5	17.0	28	4.4	7.6	.54
21	4.6	25	47	13.0	b13.0	a50	14.5	14.5	23	3.3	3.3	.54
22	6.5	25	38	15.0	a13.0	a80	13.0	12.0	18.5	3.0	2.5	.67
23	4.4	23	32	50	a13.0	127	13.0	12.5	18.0	2.7	1.8	.48
24	5.5	38	27	38	a13.0	136	17.0	9.4	20	3.0	1.5	.43
25	3.4	36	25	34	a14.0	138	13.0	8.2	13.5	3.0	5.6	.43
26	5.1	35	50	29	b13.0	104	11.5	7.0	11.0	3.0	26	.43
27	4.8	40	41	b25	b12.0	93	10.5	6.7	9.4	3.3	35	.38
28	5.4	37	81	b21	b11.0	98	9.4	5.4	8.2	2.5	13.5	.38
29	7.9	32	a70	b19.0		89	8.8	5.1	8.5	4.2	8.8	.43
30	31	28	a60	b17.0		76	8.5	7.0	7.3	3.4	7.0	.43
31	21		a50	b15.0		68		6.4		4.4	4.8	

Month	Observed				Diversions ✓ (mean second-feet)	Adjusted for diversions		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	229.2	31	3.1	7.39	0.31	7.70	0.314	0.36
November	1,054.5	145	18.5	35.2	.21	35.4	1.44	1.61
December	1,706	110	25	55.0	.25	55.2	2.25	2.59
Calendar year 1940	16,050.3	709	1.4	43.9	.35	44.2	1.80	24.53
January	815.5	60	13.0	26.3	.22	26.5	1.08	1.24
February	492.2	53	9.7	17.6	.56	18.2	.743	.77
March	1,498.5	138	10.0	48.3	.40	48.7	1.99	2.29
April	1,978.2	510	8.5	65.9	.09	66.0	2.69	3.00
May	302.0	25	5.1	9.74	.31	10.0	.408	.47
June	1,875.2	536	7.3	62.5	.17	62.7	2.56	2.86
July	283.1	28	2.5	9.13	.44	9.57	.391	.45
August	182.48	35	.75	5.89	.39	6.28	.256	.30
September	43.64	5.4	.38	1.45	.50	1.95	.080	.09
Water year 1940-41	10,460.52	536	.38	28.7	.32	29.0	1.18	16.03

Peak discharge.- Apr. 5 (8:30 a.m.) 745 sec.-ft.; June 4 (5:30 p.m.) 1,260 sec.-ft.
* Winter discharge measurement made on this day.
✓ Diversions by pumpage to city of Frostburg, Md. and by gravity to city of Salisbury, Pa.
a No or partial gage-height record; discharge computed on basis of one discharge measurement, weather records, engineer's notes, and records for nearby stations.
b Stage-discharge relation affected by ice.

Laurel Hill Creek at Ursina, Pa.

Location.- Water-stage recorder and masonry control, lat. 39°49'15", long. 79°19'15", at Ursina, Somerset County, 500 feet downstream from bridge on State Highway 53 and 2.7 miles upstream from mouth. Datum of gage is 1,335.26 feet above mean sea level (unadjusted).

Drainage area.- 121 square miles.

Records available.- August to September 1913, October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. August 1913 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 25 years (1916-41), 259 second-feet.

Extremes.- Maximum discharge during year, 9,400 second-feet June 4 (gage height, 7.98 feet), from rating curve extended above 6,000 second-feet; minimum, 10 second-feet Aug. 10 (gage height, 0.79 foot); minimum daily, 12 second-feet Aug. 9-11.
1913-41: Maximum discharge, 10,300 second-feet Mar. 17, 1936 (gage height, 10.28 feet, from floodmark, site and datum then in use), by slope-area method; no flow Aug. 22, 1917, Feb. 15, 1919; minimum daily observed, 1 second-foot Aug. 22, Sept. 1, 1917.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Slight regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	289	357	432	195	74	420	71	195	60	62	56
2	44	1,320	390	546	140	72	489	66	455	54	48	50
3	43	724	290	931	135	100	541	62	426	64	28	44
4	40	400	195	706	120	980	522	165	3,910	213	20	51
5	35	300	230	500	180	610	2,420	108	5,080	186	18	367
6	30	300	*190	360	205	400	1,570	51	1,710	124	15	501
7	29	247	244	290	*175	280	866	44	822	171	15	232
8	35	204	528	240	140	210	587	58	486	194	14	149
9	33	172	396	*205	120	195	463	71	334	121	12	112
10	30	152	408	195	110	190	374	88	243	88	12	86
11	26	142	534	175	140	205	305	71	187	74	12	108
12	24	156	444	155	170	180	257	66	342	66	92	82
13	24	152	828	135	210	140	216	81	694	58	55	60
14	24	146	793	140	270	110	191	81	629	50	28	50
15	23	156	548	115	350	125	168	78	456	46	26	44
16	24	152	586	120	270	160	152	219	531	41	39	40
17	23	138	674	150	200	140	142	422	591	44	40	36
18	26	128	489	280	150	125	128	446	1,250	38	25	33
19	33	*135	384	266	95	150	118	300	722	43	168	30
20	35	138	335	195	100	*230	109	234	452	40	164	26
21	35	138	305	140	92	408	97	187	320	32	74	24
22	36	132	257	190	86	622	88	149	238	28	46	23
23	38	121	216	500	88	748	84	172	196	25	38	22
24	35	162	183	528	84	830	132	146	168	24	38	20
25	35	191	172	390	94	811	109	112	135	23	40	19
26	44	176	204	315	88	594	82	97	109	20	362	18
27	36	234	225	280	82	508	86	86	91	20	552	17
28	33	247	694	240	78	567	78	76	81	18	220	17
29	40	234	811	240		515	76	66	71	20	118	16
30	454	195	690	260		414	71	126	66	28	84	16
31	336		534	260		374		127		72	66	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,749	454	23	56.4	0.466	0.54
November	7,381	1,320	121	246	2.03	2.26
December	13,134	828	172	424	3.50	4.04
Calendar year 1940	114,323.5	3,830	14.5	312	2.58	35.15
January	9,479	931	115	306	2.53	2.92
February	4,167	350	78	149	1.23	1.28
March	11,067	980	72	357	2.95	3.40
April	10,950	2,420	71	365	3.02	3.37
May	4,126	446	44	133	1.10	1.27
June	20,992	5,080	66	700	5.79	6.46
July	2,085	213	18	67.3	.556	.64
August	2,531	552	12	81.6	.674	.78
September	2,349	501	16	78.3	.647	.72
Water year 1940-41	90,010	5,080	12	247	2.04	27.68

Peak discharge.- Apr. 5 (8 a.m.) 3,260 sec.-ft.; June 4 (10:30 p.m.) 9,400 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 5-17, 20-23, Jan. 28 to Mar. 20.

Green Lick Run at Green Lick Reservoir, Pa.

Location.- Water-stage recorder and V-notch weir, lat. 40°06'20", long. 79°30'05", at upstream end of Green Lick Reservoir, Fayette County, 1.3 miles upstream from Latter Run and 3¼ miles southeast of Mount Pleasant.

Drainage area.- 3.07 square miles.

Records available.- August to September 1941.

Extremes.- Maximum discharge during period, 30 second-feet Sept. 5 (gage height, 1.52 feet); minimum, 0.20 second-foot Aug. 8, 9, Sept. 29, 30 (gage height, 0.20 foot). Maximum stage known, about 4.1 feet June 4, 1941 (discharge not determined).

Remarks.- Records good.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0.74	0.51
2											.48	.51
3											.39	.42
4											.32	5.0
5											.32	8.8
6												
7											.29	7.6
8											.26	3.22
9											.23	2.77
10											.26	1.73
11											.32	1.28
12											.32	1.48
13											1.44	.91
14											.51	.69
15											.39	.57
16											1.14	.45
17												
18											1.14	.42
19											.57	.39
20											.48	.39
21											9.1	.32
22											3.24	.29
23											1.22	.29
24											.74	.29
25											.57	.29
26											.45	.29
27											1.77	.36
28											1.83	.36
29											3.02	.26
30											1.26	.23
31											.79	.26
											.65	.20
											.57	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January						
February						
March						
April						
May						
June						
July						
August	34.81	9.1	0.23	1.12	0.365	0.42
September	40.58	8.8	.20	1.35	.440	.49
Water year						

Turtle Creek at Trafford, Pa.

Location.- Water-stage recorder, lat. 40°23'15", long. 79°45'55", at Trafford, Westmoreland County, 500 feet upstream from Brush Creek and 5.8 miles upstream from mouth. Datum of gage is 765.08 feet above mean sea level, adjustment of 1907.

Drainage area.- 55.9 square miles.

Records available.- October 1920 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. July 1914 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1920-41), 77.3 second-feet.

Extremes.- Maximum discharge during year, 2,110 second-feet Aug. 26 (gage height, 6.31 feet); minimum, 2.8 second-feet Aug. 10 (gage height, 1.03 feet), 1914-41: Maximum discharge, 4,420 second-feet Mar. 15, 1933 (gage height, 8.5 feet, from graph based on gage readings, site and datum then in use), from rating curve extended above 500 second-feet; minimum observed, 0.1 second-foot Oct. 6, 7, 1922, Sept. 16, 17, 28, 1939.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by industrial plants upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13.5	29	91	152	64	21	43	18.0	302	14.5	8.4	30
2	13.0	151	*71	192	71	22	41	17.0	228	33	5.8	26
3	12.0	66	57	*202	*69	*44	37	15.5	103	20	4.5	22
4	11.0	42	46	162	52	176	47	14.5	684	44	3.9	26
5	9.6	36	54	120	50	104	517	14.5	745	23	3.9	73
6	8.7	35	39	91	60	73	306	13.5	253	16.5	3.6	73
7	8.7	28	140	68	83	57	184	14.5	139	34	3.3	37
8	10.0	24	152	61	65	56	129	21	162	34	3.1	29
9	9.0	20	108	55	56	53	99	24	78	20	3.0	24
10	7.9	18.0	81	51	49	50	81	18.0	57	14.5	2.9	145
11	7.6	25	64	48	60	152	68	14.0	45	13.5	3.5	79
12	7.2	28	59	43	77	177	59	13.0	42	13.0	87	50
13	6.7	26	95	41	119	177	53	12.5	64	12.0	7.3	36
14	6.5	24	78	35	149	213	48	12.0	52	11.0	4.5	29
15	6.5	27	69	37	145	187	45	14.0	60	32	320	24
16	7.2	25	123	57	110	162	42	32	76	21	80	20
17	6.7	24	116	80	93	110	39	84	76	15.5	33	17.5
18	8.7	21	89	83	55	78	36	48	98	11.0	22	15.5
19	8.4	17.5	74	65	37	*80	34	31	59	12.0	371	13.5
20	9.6	18.0	68	56	31	75	31	24	46	9.0	199	12.0
21	9.6	17.5	57	41	29	85	30	20	37	7.6	79	11.0
22	8.4	17.0	50	51	29	78	28	22	32	6.7	47	10.5
23	7.4	15.0	44	65	30	74	27	33	29	6.2	34	10.0
24	7.2	22	39	169	32	83	34	21	26	6.2	26	10.0
25	7.4	22	38	252	26	85	26	16.0	22	5.6	63	9.9
26	6.9	170	39	166	26	72	25	14.0	18.5	5.8	481	8.7
27	6.2	414	40	131	25	64	22	12.5	17.5	4.5	327	8.4
28	6.0	172	226	99	23	57	21	11.0	16.5	4.5	122	7.6
29	6.5	116	260	83		53	19.5	36	15.0	4.1	68	7.6
30	25	83	252	74		46	18.5	56	17.0	17.0	48	6.9
31	15.0		189	68		44		28		26	37	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	284.1	25	6.0	9.16	0.164	0.19
November	1,733.0	414	15.0	57.8	1.03	1.15
December	2,908	260	38	93.8	1.68	1.94
Calendar year 1940	27,319.25	1,270	2.25	74.6	1.33	18.17
January	2,898	252	35	93.5	1.67	1.93
February	1,715	149	23	61.2	1.09	1.14
March	2,808	213	21	90.6	1.62	1.87
April	2,190.0	517	18.5	73.0	1.31	1.46
May	724.5	84	11.0	23.4	.419	.48
June	3,599.5	745	15.0	120	2.15	2.40
July	495.7	44	4.1	16.0	.286	.33
August	2,501.7	481	2.9	80.7	1.44	1.66
September	872.1	145	6.9	29.1	.521	.58
Water year 1940-41	22,729.6	745	2.9	62.3	1.11	15.13

Peak discharge.- Apr. 5 (6 a.m.) 692 sec.-ft.; June 1 (1 p.m.) 1,130 sec.-ft.; June 4 (3 p.m.) 1,290 sec.-ft.; Aug. 15 (1:30 p.m.) 1,540 sec.-ft.; Aug. 19 (3:30 p.m.) 1,190 sec.-ft.; Aug. 26 (7 p.m.) 2,110 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Feb. 4-6, 8-10, Feb. 18 to Mar. 2, Mar. 17-20.

Chartiers Creek at Carnegie, Pa.

Location.- Water-stage recorder, lat. 40°24'00", long. 80°05'55", 200 feet upstream from highway bridge at Carnegie, Allegheny County, 0.2 mile downstream from Robinson Run, and 9.0 miles upstream from mouth. Datum of gage is 762.36 feet above mean sea level (Pennsylvania Railroad bench mark).
Drainage area.- 264 square miles.
Records available.- October 1919 to September 1921, January 1932 to September 1933, November 1940 to September 1941 in reports of U. S. Geological Survey. June 1915 to September 1919 (gage heights only), October 1919 to September 1933, November 1940 to September 1941 in reports of Pennsylvania Department of Forests and Waters. Prior to October 1933, records obtained at sites 0.6 and 0.8 mile downstream.
Extremes.- Maximum discharge during period, 3,090 second-feet June 5 (gage height, 6.85 feet); minimum, 37 second-feet Aug. 11 (gage height, 1.80 feet); minimum daily, 41 second-feet Aug. 10.
1915-33, 1940-41: Maximum discharge observed, about 16,300 second-feet June 17, 1920 (gage height, 16.1 feet, site and datum then in use); minimum observed, 16 second-feet Oct. 9, 1926, at times in September 1932.
Flood of March 1936 reached a stage of about 14 feet, at present site, from information by local residents (discharge not determined).
Remarks.- Records good except those for periods of ice effect and those for period of no gage-height record, all of which are fair. Some regulation at low flow by mine drainage and industrial usage upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			242	655	348	135	215	114	97	107	148	142
2			208	616	450	130	204	109	133	87	82	160
3			176	*655	428	218	193	104	146	143	59	112
4			134	535	378	540	210	102	756	445	54	417
5			*173	380	339	313	822	99	2,240	244	51	564
6			139	330	374	250	723	95	666	148	51	542
7			283	290	491	230	486	102	401	136	45	300
8			446	270	410	227	401	125	455	186	44	263
9			296	265	326	227	352	148	292	136	43	200
10			242	255	288	218	326	128	230	120	41	232
11			*197	245	296	608	300	104	193	109	43	211
12			190	230	313	906	275	95	193	107	262	160
13			254	220	318	535	254	92	501	95	73	142
14			246	200	331	500	234	87	685	90	55	125
15			219	210	339	560	219	102	348	243	505	112
16			341	284	300	560	204	174	313	174	242	107
17			374	437	*283	490	200	351	300	107	114	99
18			292	432	210	340	190	285	250	90	85	95
19			250	330	190	310	183	154	204	103	481	90
20			234	235	180	280	173	128	176	83	a370	85
21		c63	223	210	180	344	163	109	163	73	a200	83
22		c67	204	230	175	*318	154	99	145	71	a140	81
23		c67	193	350	170	296	151	125	136	73	a90	79
24		c83	180	596	165	318	166	109	128	67	a80	77
25		c92	169	*1,290	170	326	151	95	120	62	a170	75
26		c242	173	650	165	300	139	85	112	71	574	69
27		c970	186	535	155	279	133	83	102	73	850	67
28		466	878	505	150	258	128	77	97	60	305	65
29		309	1,150	442		246	125	77	92	201	204	65
30		250	1,490	396		223	122	90	107	158	169	65
31			955	361		219		87		225	148	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November 21-30	2,609	970	63	261	0.989	0.37
December	10,737	1,490	134	346	1.31	1.51
Calendar year						
January	12,639	1,290	200	408	1.55	1.79
February	7,922	491	150	283	1.07	1.11
March	10,704	906	130	345	1.31	1.51
April	7,596	822	122	253	.958	1.07
May	3,734	351	77	120	.455	.52
June	9,781	2,240	92	326	1.23	1.37
July	4,087	445	60	132	.500	.58
August	5,778	850	41	186	.705	.81
September	4,884	564	65	163	.617	.69
Water year						

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for stations on Turtle Creek at Trafford and Loyalhanna Creek at Kingston.
c Backwater from trash and leaves on control; discharge computed on basis of one discharge measurement, gage heights, and records for stations mentioned above.
Note.- Stage-discharge relation affected by ice Jan. 5-15, 19-23, Feb. 18 to Mar. 2, Mar. 17-20.

Beaver River at Wampum, Pa.

Location.- Water-stage recorder, lat. 40°53'15", long. 80°20'05", at highway bridge at Wampum, Lawrence County, 2 3/4 miles upstream from Connoquenessing Creek. Datum of gage is 736.24 feet above mean sea level (Pennsylvania Railroad bench mark).
Drainage area.- 2,235 square miles.
Records available.- June to September 1914, August 1932 to September 1941.
Extremes.- Maximum discharge during year, 15,600 second-feet Dec. 31 (gage height, 10.87 feet); minimum daily (regulated), 276 second-feet July 5, 6.
1914, 1932-41: Maximum discharge, 48,000 second-feet Jan. 25, 1937 (gage height, 21.44 feet, from floodmark), by contracted opening method; minimum observed (regulated), 74 second-feet July 30, 1933 (gage height, 1.70 feet); minimum daily (regulated), 97 second-feet July 22, Aug. 23, 1933.
Maximum stage known, 29.9 feet Mar. 26, 1913, from floodmark (discharge, about 87,000 second-feet).
Remarks.- Records good. Flow regulated by Pumatuning Reservoir (see page 191), Milton Lake, and Meander Creek Reservoir (combined capacity, 11,275,000,000 cubic feet).
Cooperation.- Records of contents in Milton Lake furnished by Division of Water, city of Youngstown. Records of contents in Meander Creek Reservoir furnished by Mahoning Valley Sanitary District.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	420	539	1,700	11,600	2,820	1,090	2,000	471	383	415	1,390	368
2	402	969	2,860	6,700	2,960	1,070	2,000	454	551	359	862	325
3	402	1,000	2,480	5,740	3,170	1,170	1,870	448	618	320	530	350
4	378	867	1,460	5,050	2,750	3,940	1,660	436	708	298	409	399
5	378	702	1,240	3,970	1,940	5,220	2,130	415	877	276	394	418
6	372	718	1,290	3,170	1,800	4,270	3,820	415	1,020	276	359	691
7	372	662	1,400	2,750	2,130	3,170	3,820	442	796	278	339	525
8	426	578	2,780	2,400	2,540	2,680	2,750	513	525	507	330	420
9	384	534	3,160	2,260	2,610	2,400	2,130	494	409	454	320	399
10	381	499	2,410	2,200	2,260	2,060	1,710	494	359	399	320	368
11	1,060	589	1,880	2,130	1,940	2,400	1,410	454	320	344	302	415
12	948	1,040	1,780	2,130	1,800	3,740	1,230	415	335	363	695	378
13	487	1,160	5,230	2,060	2,330	3,900	1,080	394	712	333	548	409
14	366	1,020	6,340	2,000	4,960	4,120	996	373	1,040	298	425	389
15	378	822	3,820	1,870	8,620	5,050	930	383	944	302	1,850	368
16	360	761	3,690	1,940	6,900	5,050	851	622	1,650	316	2,750	373
17	402	710	6,300	1,730	4,890	5,050	817	647	1,160	474	1,870	373
18	408	702	5,390	3,460	3,900	3,820	801	611	826	406	1,020	378
19	420	804	3,820	4,270	3,520	3,100	817	519	618	2,110	640	404
20	420	961	3,030	3,240	3,100	2,890	851	465	465	2,100	507	442
21	408	1,050	2,820	2,400	2,680	3,100	978	415	394	1,260	459	425
22	408	1,120	2,610	2,330	2,130	3,450	895	373	354	658	420	383
23	396	990	2,260	4,670	1,540	3,600	809	591	330	436	399	399
24	396	894	2,000	5,390	1,410	3,900	752	645	307	359	368	378
25	390	822	1,820	4,270	1,380	4,270	706	482	294	349	439	344
26	378	786	1,750	3,670	1,370	3,740	654	425	349	330	538	335
27	372	1,390	1,790	3,670	1,330	3,170	591	378	359	316	949	335
28	360	1,960	3,830	3,380	1,250	2,820	564	359	312	307	934	359
29	378	1,780	9,830	3,240		2,540	578	378	557	331	578	344
30	541	1,350	15,100	3,030		2,200	465	344	501	753	459	339
31	541		15,100	2,960		2,060		339		2,420	399	

Month	Observed: Second-foot-days	Observed: Maximum	Observed: Minimum	Observed: Mean	Change in contents ✓ (mean second-feet)	Adjusted for change in reservoir contents: Mean	Adjusted for change in reservoir contents: Per square mile	Adjusted for change in reservoir contents: Run-off in inches
October	13,732	1,060	360	443	-272	171	0.077	0.09
November	27,779	1,960	499	926	+192	1,118	.500	.56
December	120,970	15,100	1,240	3,902	+483	4,385	1.96	2.26
Calendar year 1940	938,041	28,300	299	2,563				
January	109,680	11,600	1,730	3,538	-456	3,082	1.38	1.59
February	80,030	8,620	1,250	2,858	-1.1	2,857	1.28	1.33
March	101,040	5,220	1,070	3,259	+30.2	3,290	1.47	1.69
April	40,665	3,820	465	1,356	+4.4	1,360	.609	.68
May	14,194	647	339	458	-105	353	.158	.18
June	18,073	1,650	294	602	+18.7	621	.278	.31
July	18,147	2,420	276	585	-11.3	574	.257	.30
August	21,802	2,750	302	703	-92.9	610	.273	.31
September	11,813	691	325	394	-304	90.0	.040	.04
Water year 1940-41	577,925	15,100	276	1,583	-43.6	1,539	.689	9.34

✓ Change in contents in Milton Lake, Meander Creek, and Pymatuning Reservoirs.
Note.- Backwater from aquatic vegetation Oct. 1 to Nov. 2; discharge computed on basis of two discharge measurements, gage heights, and records for station at Beaver Falls.

Beaver River at Beaver Falls, Pa.

Location.- Tape gage, lat. 40°45'45", long. 80°18'55", at pumping plant of Beaver Valley Water Co., at Beaver Falls, Beaver County, 5.5 miles upstream from mouth and 7 miles downstream from Connoquenessing Creek. Datum of gage is 727.48 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 3,106 square miles.

Records available.- October 1935 to September 1941 (fragmentary). Gage-height records collected at same site since 1908 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 20,100 second-feet Dec. 30 (gage height, 8.3 feet); minimum not determined.
1936-41: Maximum discharge, 64,500 second-feet Jan. 25, 1937 (gage height, 13.8 feet); minimum not determined.
Maximum stage known, 17.4 feet Mar. 27, 1913 (discharge, 103,000 second-feet, from rating curve extended above 50,000 second-feet by logarithmic plotting).

Remarks.- Records good except those below 5,000 second-feet, which are fair. Discharge less than 1,600 second-feet on days for which no discharge is shown. Gage read one or more times daily. Some regulation by Meander Creek, Milton, and Pymatuning Reservoirs (combined capacity, 11,275,000,000 cubic feet).

Cooperation.- Gage-height record furnished by U. S. Weather Bureau. Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			2,980	15,300	3,960	1,680	3,300				3,960	
2			5,020	10,800	3,960	1,680	2,980				2,400	
3		2,140	3,960	9,750	4,300	2,040	2,980		1,680			
4		1,680	2,400	8,320	3,620	6,490	2,680		2,490			
5			2,140	6,180	2,680	9,260	3,620		5,020			
6			2,140	4,660	2,400	7,000	8,780		3,620			
7			2,400	4,300	2,980	5,020	7,860		2,980			
8			4,660	3,620	3,620	4,300	5,400		1,900			
9			4,660	3,300	3,620	3,960	3,960					
10			3,620	2,980	2,680	3,620	3,620					
11			2,980	2,980	2,400	3,620	2,680					
12		2,140	2,980	2,980	2,400	6,180	2,400					
13		2,140	6,260	2,680	2,980	6,180	2,140					
14		1,900	9,260	2,400	6,670	7,000	1,900		2,680			
15			5,780	2,400	12,400	7,860	1,680		2,680		2,610	
16			5,780	2,400	10,800	7,860	1,680		3,300		7,860	
17			10,200	2,400	7,420	7,420		1,680	3,300		4,300	
18			8,780	4,700	5,400	5,780		1,680	2,140		2,400	
19			6,180	6,180	5,020	5,020			1,680	8,780	1,680	
20			4,660	4,660	4,300	4,660				3,960		
21			4,300	2,980	3,620	5,020				2,680		
22		1,680	3,960	3,300	2,980	5,780						
23			3,620	6,410	2,400	6,180						
24			2,980	7,860	2,140	7,000						
25			2,680	5,780	2,140	7,420						
26			2,400	5,400	1,900	6,580						
27		2,760	2,400	5,400	1,900	5,400						
28		4,660	5,520	5,020	1,900	4,660						
29		3,300	15,900	4,660		4,300					1,680	
30		2,400	19,500	4,300		3,620						
31			18,900	3,960		3,300				5,400		

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October		4,660				
November						
December	179,000	19,500	2,140	5,774		
Calendar year 1940		46,300				
January	158,060	15,300	2,400	5,099		
February	112,590	12,400	1,900	4,021		
March	165,890	9,260	1,680	5,351		
April		8,780				
May						
June		5,020				
July		8,780				
August		7,860				
September						
Water year 1940-41		19,500				

Pymatuning Reservoir at Pymatuning Dam, Pa.

Location.- Water-stage recorder, lat. 41°30'00", long. 80°27'35", in gatehouse at Pymatuning Dam on Shenango River, Crawford County, 1 3/4 miles northwest of Jamestown. Datum of gage is at mean sea level, adjustment of 1907.

Drainage area.- 158 square miles.

Records available.- October 1933 to September 1941.

Extremes.- Maximum contents during year, 7,667,000,000 cubic feet Dec. 17 (water-surface elevation, 1,007.16 feet); minimum, 6,029,000,000 cubic feet Sept. 25 (water-surface elevation, 1,004.36 feet).
1933-41: Maximum contents, 8,961,000,000 cubic feet June 21, 1937 (water-surface elevation, 1,009.16 feet); minimum, 1,260,000 cubic feet Oct. 15, 16, 19, 1933 (water-surface elevation, 975.70 feet).

Remarks.- Reservoir formed by earth-fill dam, stone faced. Dam completed in 1933; storage began Dec. 5, 1933; all regulating gates closed Jan. 23, 1934. Capacity, 8,191,000,000 cubic feet between elevations 975.3 feet (sill of outlet gate) and 1,008.0 feet (crest of spillway). Figures given herein represent usable contents; dead storage, 4,034,000 cubic feet. Reservoir used to regulate flow in Shenango River.

Contents, in million cubic feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,155	6,786	7,077	7,422	6,869	7,012	7,149	7,336	7,179	7,059	6,810	6,715
2	7,143	6,810	7,125	7,440	6,869	6,994	7,155	7,312	7,161	7,065	6,786	6,692
3	7,131	6,780	7,143	7,403	6,874	7,042	7,173	7,294	7,119	7,048	6,762	6,663
4	7,107	6,774	7,131	7,348	6,869	7,107	7,143	7,276	7,270	7,000	6,745	6,634
5	7,083	6,798	7,125	7,336	6,863	7,113	7,221	7,276	7,209	6,976	6,739	6,634
6	7,048	6,827	7,119	7,282	6,869	7,119	7,240	7,264	7,203	6,958	6,715	6,645
7	7,083	6,786	7,167	7,234	6,886	7,107	7,252	7,288	7,155	6,982	6,681	6,634
8	7,059	6,762	7,197	7,161	6,886	7,119	7,258	7,270	7,203	6,964	6,657	6,596
9	7,048	6,745	7,203	7,125	6,886	7,101	7,270	7,312	7,179	6,934	6,657	6,587
10	7,024	6,733	7,227	7,083	6,886	7,077	7,270	7,270	7,155	6,910	6,634	6,657
11	7,000	6,739	7,240	7,018	6,886	7,071	7,276	7,264	7,131	6,934	6,715	6,610
12	6,976	6,798	7,348	6,970	6,886	7,071	7,270	7,234	7,137	6,928	6,733	6,581
13	6,988	6,821	7,440	6,922	6,886	7,048	7,264	7,227	7,143	6,910	6,704	6,535
14	6,958	6,833	7,446	6,869	6,994	7,018	7,264	7,209	7,161	6,880	6,686	6,511
15	6,994	6,821	7,446	6,845	7,042	6,994	7,282	7,264	7,203	6,869	6,727	6,500
16	6,946	6,762	7,618	6,845	7,048	6,994	7,264	7,264	7,191	6,892	6,704	6,459
17	6,946	6,845	7,636	6,869	7,071	6,976	7,288	7,276	7,191	6,880	6,681	6,471
18	6,928	6,821	7,642	6,952	7,077	6,958	7,312	7,252	7,185	6,851	6,651	6,453
19	6,916	6,816	7,636	6,970	7,077	6,952	7,348	7,252	7,185	6,886	6,675	6,419
20	6,886	6,869	7,624	6,970	7,077	6,946	7,354	7,252	7,185	6,863	6,640	6,361
21	6,874	6,857	7,550	6,952	7,077	6,964	7,379	7,240	7,179	6,851	6,622	6,355
22	6,827	6,916	7,538	7,012	7,083	6,988	7,354	7,234	7,167	6,839	6,610	6,337
23	6,857	6,928	7,489	7,042	7,077	7,018	7,403	7,264	7,161	6,827	6,604	6,320
24	6,845	6,964	7,446	7,048	7,071	7,048	7,361	7,246	7,137	6,827	6,587	6,269
25	6,839	6,946	7,409	7,024	7,065	7,065	7,361	7,221	7,113	6,816	6,692	6,274
26	6,827	6,934	7,361	7,012	7,054	7,071	7,342	7,215	7,083	6,804	6,733	6,234
27	6,816	6,940	7,354	6,994	7,048	7,089	7,336	7,215	7,065	6,780	6,721	6,189
28	6,786	6,898	7,434	6,952	7,042	7,089	7,330	7,209	7,071	6,798	6,721	6,257
29	6,798	6,994	7,495	6,922		7,095	7,324	7,215	7,083	6,786	6,710	6,183
30	6,786	7,012	7,538	6,898		7,095	7,324	7,191	7,077	6,810	6,698	6,171
31	6,774		7,489	6,886		7,119		7,173		6,821	6,675	

Monthly elevation and contents, water year October 1940 to September 1941

Date	Elevation (feet)/	Contents (million cubic feet)	Change in contents during month (million cubic feet)
Sept. 30	1,006.35	7,173	
Oct. 31	1,005.68	6,774	-399
Nov. 30	1,006.08	7,012	+238
Dec. 31	1,006.87	7,489	+477
Calendar year 1940			+1,601
Jan. 31	1,005.87	6,886	-603
Feb. 28	1,006.13	7,042	+156
Mar. 31	1,006.26	7,119	+77
Apr. 30	1,006.60	7,324	+205
May 31	1,006.35	7,173	-151
June 30	1,006.19	7,077	-96
July 31	1,005.76	6,821	-256
Aug. 31	1,005.51	6,675	-146
Sept. 30	1,004.64	6,171	-504
Water year 1940-41			-1,002

/ Elevation at midnight.

Shenango River at Pymatuning Dam, Pa.

Location.- Water-stage recorder and concrete control, lat. 41°29'55", long. 80°27'30", 500 feet downstream from Sugar Run, 550 feet downstream from Pymatuning Dam, Crawford County, and 1¼ miles northwest of Jamestown. Datum of gage is 970.00 feet above mean sea level, adjustment of 1907.

Drainage area.- 167 square miles.

Records available.- June 1934 to September 1941.

Extremes.- Maximum discharge during year (regulated), 881 second-feet Dec. 30, 31; maximum gage height, 7.23 feet Dec. 30; minimum discharge (regulated), 0.4 second-foot Sept. 1, 2 (gage height, 3.37 feet).
1934-41: Maximum discharge (regulated), 1,910 second-feet Sept. 4, 1937 (gage height, 9.2 feet, from extension of recorder graph), from rating curve extended above 700 second-feet; minimum (regulated), 0.1 second-foot June 30 to July 3, 1934.

Remarks.- Records excellent. Flow regulated by Pymatuning Reservoir (see page 191).

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	143	145	854	306	200	13.5	25	142	70	70	0.4
2	146	120	104	765	311	200	10.0	25	108	70	69	40
3	143	92	94	670	210	219	6.7	25	69	70	69	178
4	143	90	94	710	156	264	6.0	25	75	70	69	153
5	143	90	94	748	156	220	14.5	24	55	70	69	77
6	143	90	94	748	156	208	23	24	37	70	69	77
7	146	88	126	748	167	204	11.0	24	37	70	69	77
8	146	88	117	748	167	260	7.0	25	37	70	69	116
9	143	88	99	748	164	288	5.4	25	37	72	70	103
10	143	88	102	748	123	336	4.4	25	37	72	70	122
11	143	102	102	748	102	428	3.8	25	37	72	70	131
12	143	104	132	748	99	487	3.5	25	36	72	70	136
13	143	94	177	728	114	615	3.1	24	36	72	69	136
14	143	90	144	728	200	574	2.6	24	35	72	69	136
15	146	90	156	365	144	472	2.3	25	35	72	70	148
16	143	90	225	137	116	472	2.3	25	15.5	72	70	162
17	143	90	275	146	137	468	2.9	25	1.2	72	69	219
18	143	97	306	156	146	409	5.2	24	.8	73	69	262
19	143	97	302	153	146	324	7.2	24	.6	51	69	228
20	143	44	459	241	143	268	4.2	23	.5	30	69	209
21	143	11.0	644	293	143	146	3.8	23	41	29	69	205
22	143	7.0	644	314	143	105	3.3	23	70	45	69	182
23	143	5.0	644	347	143	105	2.8	23	112	56	69	165
24	143	5.4	644	392	179	109	2.3	23	142	56	69	165
25	143	5.0	630	441	200	100	2.0	23	100	56	71	186
26	143	3.7	630	437	200	102	1.8	23	70	56	80	197
27	143	47	630	493	200	107	1.6	23	70	56	3.4	182
28	143	99	717	566	200	107	11.5	23	70	84	1.3	172
29	143	94	541	482		107	24	23	70	102	.8	168
30	146	94	609	368		105	24	23	70	79	.7	168
31	143		881	306		73		81		72	.5	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	4,451	146	143	144	-149	-5	-0.030	-0.03
November	2,246.1	143	3.7	74.9	+91.8	167	1.00	1.12
December	10,561	881	94	341	+178	519	3.11	3.59
Calendar year 1940	62,271.0	881	1.3	170.1	+50.6	221	1.32	18.03
January	16,076	854	137	519	-225	294	1.76	2.03
February	4,671	311	99	167	+64.5	231	1.38	1.44
March	8,082	615	73	261	+28.7	290	1.74	2.01
April	215.7	24	1.6	7.19	+79.1	86.3	.517	.58
May	802	81	23	25.9	-56.4	-30.5	-.183	-.21
June	1,646.6	142	.5	54.9	-37.0	17.9	.107	.12
July	2,053	102	29	66.2	-95.6	-29.4	-.176	-.20
August	1,820.7	80	.5	58.7	-54.5	4.2	.025	.03
September	4,500.4	262	.4	150	-194	-44.4	-.266	-.30
Water year 1940-41	57,125.5	881	.4	157	-31.8	125	.749	10.15

∕ Change in contents in Pymatuning Reservoir; no corrections made for evaporation and seepage losses.

Note.- Negative figures of runoff indicate that evaporation and seepage from the reservoir exceeded the inflow.

Shenango River at Sharpsville, Pa.

Location.- Water-stage recorder, lat. 41°16'00", long. 80°28'20", 700 feet upstream from Erie Railroad bridge at Sharpsville, Mercer County, and 3 miles downstream from Pymatuning Creek. Datum of gage is 862.19 feet above mean sea level, adjustment of 1929.

Drainage area.- 588 square miles.

Records available.- March 1938 to September 1941.

Extremes.- Maximum discharge during year (regulated), 4,200 second-feet Dec. 30 (gage height, 6.62 feet); minimum (regulated), 38 second-feet Sept. 4 (gage height, 2.09 feet); minimum daily (regulated), 43 second-feet Sept. 3.
1938-41: Maximum discharge (regulated), 7,880 second-feet Apr. 21, 1940 (gage height, 9.08 feet); minimum, that of Sept. 4, 1941; minimum daily, that of Sept. 3, 1941.
Maximum stage known, about 19.3 feet (revised) Mar. 26, 1913, from Pymatuning survey profile map (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Pymatuning Reservoir (see page 191) and mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	225	906	2,680	658	430	535	114	120	97	150	74
2	176	386	1,140	2,380	704	400	563	112	230	97	117	55
3	176	361	699	2,500	720	495	479	104	172	92	97	43
4	176	251	580	2,040	548	1,840	406	100	140	90	90	162
5	173	202	550	1,630	470	1,820	474	97	242	90	86	187
6	173	198	530	1,450	530	1,360	973	90	225	86	82	134
7	173	194	658	1,260	600	1,130	890	95	147	90	80	114
8	176	189	1,310	1,180	720	982	642	109	114	140	80	107
9	169	176	992	1,130	680	828	479	114	95	114	80	128
10	169	169	744	1,090	660	720	373	117	82	104	80	137
11	169	208	696	1,080	530	918	306	109	78	95	80	143
12	165	473	758	1,050	430	1,300	261	97	98	97	97	150
13	165	453	2,380	1,050	580	1,300	225	90	173	97	107	154
14	162	323	1,920	992	*1,600	1,510	207	88	165	90	104	154
15	176	294	1,240	1,020	2,380	1,630	189	90	150	90	249	154
16	180	277	1,660	522	1,920	1,570	173	102	180	95	248	162
17	176	267	2,500	*592	1,460	1,540	165	120	147	100	150	173
18	189	289	*1,870	1,390	1,100	1,240	173	123	134	97	120	235
19	184	373	1,390	1,350	930	1,010	235	109	86	290	107	283
20	189	412	1,210	973	740	908	256	100	70	216	100	241
21	194	452	1,290	800	600	935	246	90	58	120	90	220
22	184	419	1,200	1,050	580	1,050	225	98	50	84	88	220
23	184	329	1,050	2,260	530	1,140	194	134	79	68	86	194
24	184	283	973	1,700	*480	1,270	176	102	123	74	84	176
25	180	261	926	1,410	530	1,300	154	90	162	78	86	176
26	180	225	917	1,260	530	1,100	137	86	128	76	385	194
27	176	406	935	1,110	500	*935	126	84	95	76	608	212
28	176	591	2,090	1,040	460	768	117	97	95	72	218	202
29	176	500	3,680	973		658	109	80	109	81	134	189
30	220	425	4,070	811		563	114	74	102	137	114	184
31	216		3,220	712		514		74		184	97	

Month	Observed				Change in contents ∕ (mean second-feet)	Adjusted for change in reservoir contents		
	Second-foot-days	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October	5,566	220	162	180	-149	30	0.052	0.06
November	9,611	591	169	320	+91.8	412	.701	.78
December	44,084	4,070	530	1,422	+178	1,600	2.72	3.14
Calendar year 1940	258,843	7,400	85	707	+50.6	758	1.29	17.55
January	40,485	2,680	522	1,306	-225	1,081	1.84	2.12
February	22,170	2,380	430	792	+64.5	856	1.46	1.52
March	33,164	1,840	400	1,070	+28.7	1,099	1.87	2.16
April	9,602	973	109	320	+79.1	399	.679	.76
May	3,089	134	74	99.6	-56.4	43.2	.073	.08
June	3,849	242	50	128	-37.0	91.3	.155	.17
July	3,317	290	68	107	-95.6	11.4	.019	.02
August	4,294	608	80	139	-54.5	84.0	.143	.16
September	4,957	283	43	165	-194	-29.2	-.050	-.06
Water year 1940-41	184,188	4,070	43	505	-31.8	473	.804	10.91

* Winter discharge measurement made on this day.
∕ Change in contents in Pymatuning Reservoir; no corrections made for evaporation and seepage losses.

Note.- Backwater from leaves Oct. 1 to Nov. 12; discharge computed on basis of two discharge measurements, gage heights, and records for stations upstream. Stage-discharge relation affected by ice Dec. 4-6, Jan. 21, 22, Feb. 5-13, Feb. 18 to Mar. 2. Negative figures of runoff indicate that evaporation and seepage from the reservoir exceeded the inflow.

Sugar Run at Pymatuning Dam, Pa.

Location.- Water-stage recorder and concrete control, lat. 41°29'50", long. 80°27'55", at highway bridge at Pymatuning Dam, Crawford County, a quarter of a mile upstream from mouth and 1 3/4 miles northwest of Jamestown. Datum of gage is 984.58 feet above mean sea level, adjustment of 1907.

Drainage area.- 9.34 square miles.

Records available.- March 1934 to September 1941.

Extremes.- Maximum discharge during year, 214 second-feet Aug. 26 (gage height, 2.37 feet); no flow at times.
1934-41: Maximum discharge, 1,820 second-feet Sept. 4, 1937 (gage height, 6.80 feet), from rating curve extended above 300 second-feet; no flow at times.

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.25	2.11	59	18.5	7.2	b3.0	13.5	0.77	0.37	0.04	1.11	0.11
2	.25	13.0	17.5	33	10.5	b3.1	10.0	.70	.37	.02	.22	.05
3	.21	3.76	9.2	36	7.8	b16.0	6.4	.52	.25	.01	.07	.03
4	.18	1.73	7.0	15.0	5.8	67	5.5	.52	8.2	0	.02	.11
5	.18	1.30	7.0	9.5	6.4	31	14.0	.52	7.8	0	.01	.37
6	.15	1.62	7.2	7.8	7.0	15.0	23	.41	1.59	0	0	.37
7	.20	1.51	41	6.7	22	7.8	11.0	.58	.70	0	0	.15
8	.37	1.20	32	6.1	22	6.1	6.7	.85	.46	.14	0	.05
9	.33	1.01	12.0	5.8	14.5	5.8	5.0	.85	.25	.07	0	.04
10	.25	.93	11.5	6.1	7.0	5.7	3.90	.77	.18	.02	0	.15
11	.21	16.0	9.5	5.8	b5.0	12.0	3.30	.52	.13	.01	.01	.21
12	.18	15.5	42	5.5	b4.3	18.0	2.92	.41	.50	.01	.08	.11
13	.18	4.60	87	5.2	*b18.0	15.5	2.59	.37	1.51	.01	.02	.04
14	.15	2.75	18.5	4.78	88	20	2.27	.37	1.01	.01	.01	.03
15	.44	2.59	11.5	4.30	49	*20	1.98	.70	.70	.01	.01	.01
16	.70	2.92	81	*4.75	18.5	22	1.73	1.51	1.98	.18	.72	.01
17	.46	3.72	*40	*29	15.5	21	2.59	1.20	.85	.50	.27	.01
18	.58	10.0	16.0	45	9.1	14.0	5.2	.93	.41	1.60	.15	.01
19	.64	9.5	10.5	16.5	9.8	8.8	7.1	.58	.25	5.5	.05	0
20	.58	11.0	9.5	10.5	9.8	13.0	4.10	.41	.18	.49	.03	0
21	.58	11.0	8.8	7.2	8.4	23	3.70	.33	.13	.17	.02	0
22	.52	7.0	7.2	40	6.1	25	2.92	.29	.09	.09	.01	0
23	.46	4.30	6.4	62	5.0	22	2.27	.46	.05	.05	0	0
24	.41	5.0	4.88	14.0	3.30	27	1.85	.52	.04	.03	0	0
25	.37	4.30	4.71	11.0	*4.50	21	1.51	.37	.03	.02	4.94	0
26	.37	2.95	5.8	8.1	3.70	14.0	1.30	.25	.02	.01	50	0
27	.37	18.5	7.6	7.5	3.30	12.0	1.10	.21	.01	.01	2.63	0
28	.33	12.0	94	7.2	b3.1	10.0	1.01	.18	.01	0	.70	0
29	.33	7.5	118	7.0		8.4	.93	.15	.03	0	.33	0
30	1.18	7.6	51	6.7		6.7	.85	.25	.04	.05	.21	0
31	1.10		24	6.7		6.4		.25		4.19	.18	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12.51	1.18	0.15	0.404	0.043	0.05
November	186.90	18.5	.93	6.23	.667	.74
December	861.29	118	4.71	27.8	2.98	3.44
Calendar year 1940	4,572.99	296	.01	12.5	1.34	18.20
January	453.23	62	4.30	14.6	1.56	1.80
February	374.60	88	3.1	13.4	1.43	1.49
March	500.3	67	3.0	16.1	1.72	1.98
April	150.22	23	.85	5.01	.536	.60
May	16.75	1.51	.15	.540	.058	.07
June	28.14	8.2	.01	.938	.100	.11
July	13.24	5.5	0	.427	.046	.05
August	61.80	50	0	1.99	.213	.25
September	1.86	.37	0	.062	.0066	.01
Water year 1940-41	2,660.84	118	0	7.29	.781	10.59

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Little Shenango River at Greenville, Pa.

Location.- Water-stage recorder, lat. 41°25'15", long. 80°22'35", 1,500 feet downstream from Williamson Crossing Bridge, 1 mile northeast of Greenville, Mercer County, and 2 miles upstream from mouth. Datum of gage is 953.46 feet above mean sea level, adjustment of 1912.

Drainage area.- 104 square miles.

Records available.- November 1919 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1914 to August 1923, November 1925 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1914-18, 1920-22, 1926-41), 134 second-feet.

Extremes.- Maximum discharge during year, 1,230 second-feet Dec. 29 (gage height, 5.75 feet); minimum, 5.2 second-feet Sept. 25, 26 (gage height, 0.74 foot).
1919-23, 1925-41: Maximum discharge, 4,600 second-feet Jan. 25, 1937 (gage height, 11.00 feet), from rating curve extended above 2,000 second-feet; minimum observed, 2.0 second-feet Aug. 21, 1923.

Remarks.- Records good except those for periods of ice effect, which are fair. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12.0	27	360	296	96	48	140	31	18.5	10.0	32	15.5
2	13.5	95	327	337	105	43	144	29	20	8.6	18.5	13.0
3	14.5	82	140	528	105	78	109	26	21	8.3	12.0	13.5
4	16.0	47	105	323	82	550	94	25	32	7.9	9.6	13.0
5	11.0	36	96	171	96	504	148	24	62	7.6	8.3	15.0
6	10.5	39	100	155	90	249	357	24	39	7.6	7.6	22
7	9.8	47	198	130	115	168	210	26	24	9.4	6.6	20
8	12.5	44	483	120	130	133	134	32	19.5	19.5	6.6	14.0
9	12.0	38	225	105	125	115	104	35	16.0	13.0	6.9	15.0
10	10.5	34	165	101	115	100	89	32	15.0	8.9	7.2	12.5
11	10.5	48	154	100	90	150	78	27	13.5	7.9	6.6	13.5
12	10.5	170	212	96	84	246	71	24	18.0	7.6	29	12.5
13	11.0	94	922	92	*130	196	64	23	34	9.6	30	11.0
14	10.5	59	539	84	454	225	60	22	42	8.6	15.5	10.5
15	13.5	50	210	74	691	*266	55	24	37	8.3	20	9.3
16	17.5	51	450	*78	372	246	51	42	53	7.6	46	8.3
17	17.5	53	804	127	266	222	54	43	34	8.6	30	8.9
18	17.5	72	*362	470	165	170	58	35	25	9.6	18.0	8.9
19	19.0	99	206	318	149	136	80	29	19.5	36	13.5	8.6
20	20	113	171	180	126	148	64	24	17.5	28	11.0	8.6
21	15.0	136	155	127	113	251	69	22	15.5	16.5	10.0	8.6
22	16.0	106	133	183	108	308	63	20	15.5	12.0	9.3	7.6
23	15.5	77	116	696	99	308	60	23	13.0	10.0	9.6	7.2
24	15.0	71	99	406	90	357	53	27	15.0	9.6	9.3	7.9
25	15.5	74	90	207	88	320	48	23	11.5	8.6	9.6	6.9
26	13.0	60	94	163	70	209	43	20	11.0	7.6	434	5.5
27	15.5	130	102	144	70	171	41	18.5	9.6	7.2	161	7.6
28	12.5	154	570	130	60	157	38	18.0	9.6	6.9	62	6.6
29	11.5	104	1,030	120		137	35	17.0	10.5	7.2	36	6.3
30	22	91	968	110		116	32	17.0	10.5	12.5	26	6.1
31	30		470	105		112		17.0		46	20	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	451.3	30	9.8	14.6	0.140	0.16
November	2,301	170	27	76.7	.738	.82
December	10,056	1,030	90	324	3.12	3.60
Calendar year 1940	54,382.1	1,710	8.4	149	1.43	19.45
January	6,276	696	74	202	1.94	2.24
February	4,284	691	60	153	1.47	1.53
March	6,439	550	43	208	2.00	2.31
April	2,646	357	32	88.2	.848	.95
May	799.5	43	17.0	25.8	.248	.29
June	682.2	62	9.6	22.7	.218	.24
July	376.7	46	6.9	12.2	.117	.13
August	1,121.7	434	6.6	36.2	.348	.40
September	323.9	22	5.5	10.8	.104	.12
Water year 1940-41	35,757.3	1,030	5.5	98.0	.942	12.79

Peak discharge.- Dec. 13 (6 p.m.) 1,080 sec.-ft.; Dec. 29 (12 p.m.) 1,230 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3-6, Jan. 14, 15, Jan. 29 to Feb. 12, Feb. 24 to Mar. 4, Mar. 9-11.

Pymatuning Creek near Orangeville, Pa.

Location.- Water-stage recorder, lat. 41°18'40", long. 80°28'40", 2 miles upstream from mouth, 3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpsville. Datum of gage is 873.35 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 169 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1914 to August 1923, November 1925 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years (1914-22, 1926-41), 199 second-feet.

Extremes.- Maximum gage height during year, 7.87 feet Dec. 30, affected by backwater from Shenango River (discharge not determined); minimum discharge, 1.6 second-feet Aug. 10, 11 (gage height, 1.14 feet); minimum daily discharge, 1.7 second-feet Aug. 9-11, Sept. 26, 29.
1914-23, 1925-41: Maximum discharge, 3,250 second-feet Mar. 25, 1936 (gage height, 10.68 feet), from rating curve extended above 2,100 second-feet; minimum, 0.2 second-foot Sept. 4, 1939; minimum daily, 0.6 second-foot Sept. 24, 1933, Sept. 2, 1939.
Maximum stage known, 16.0 feet Mar. 26, 1913, former site and datum, from floodmark, probably affected by backwater from Shenango River (discharge not determined).

Remarks.- Records poor. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	23	260	900	115	60	151	18.5	11.5	5.6	10.0	25
2	7.0	56	277	750	125	55	170	17.0	10.0	5.6	7.0	12.5
3	6.2	46	215	650	135	96	156	16.0	9.7	5.1	5.1	7.4
4	5.8	39	185	577	125	500	135	15.5	14.5	5.4	3.6	5.9
5	5.6	35	170	449	140	502	161	15.0	41	4.2	3.2	6.4
6	5.3	32	160	336	135	623	267	14.0	54	3.4	2.9	6.7
7	5.6	26	210	185	170	600	294	15.0	41	11.5	2.2	4.9
8	4.9	22	286	125	230	429	250	17.0	26	8.9	1.9	4.2
9	4.7	20	314	115	235	233	170	19.5	15.0	7.0	1.7	5.1
10	5.3	19.0	296	100	215	150	112	21	10.5	7.8	1.7	6.4
11	6.0	48	277	97	170	170	84	18.5	8.1	6.7	1.7	7.0
12	6.6	83	316	90	135	265	66	16.0	8.9	6.2	4.2	5.1
13	6.4	75	580	80	193	300	54	13.5	15.5	4.2	3.4	5.1
14	6.0	66	501	80	*550	350	47	12.0	19.5	4.6	2.7	5.6
15	8.8	69	557	80	700	390	41	14.0	25	5.9	29	5.4
16	9.4	63	801	85	800	460	37	18.5	31	6.2	21	4.4
17	11.0	54	774	*150	700	460	37	19.5	26	6.7	13.5	3.8
18	13.0	56	*696	360	550	330	43	20	29	14.0	10.0	3.2
19	14.0	70	600	429	480	260	70	19.0	25	93	7.0	2.7
20	16.0	89	522	419	300	215	80	15.5	17.0	70	5.1	2.5
21	15.5	122	429	379	160	215	76	12.5	11.5	30	3.6	2.5
22	14.0	129	270	454	125	285	66	11.5	9.3	14.0	3.6	2.2
23	13.5	118	159	559	110	375	54	12.0	7.0	8.1	2.9	2.0
24	13.5	108	122	491	*100	460	45	12.5	6.2	5.9	2.7	2.5
25	13.0	90	103	502	90	470	37	11.5	5.4	4.9	3.6	2.2
26	12.5	72	95	439	80	449	31	11.0	4.9	4.2	33	1.7
27	11.5	123	94	350	75	*389	27	11.0	4.4	3.8	70	2.0
28	11.0	127	432	237	70	267	24	13.0	5.1	3.4	48	1.9
29	12.0	102	850	150		192	21	9.3	13.5	3.4	54	1.7
30	18.5	90	1,100	125		148	19.0	7.8	7.4	4.4	54	1.9
31	15.5		1,000	120		128		8.5		9.3	42	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	306.9	18.5	4.7	9.90	0.059	0.07
November	2,072.0	129	19.0	69.1	.409	.46
December	12,651	1,100	94	408	2.41	2.78
Calendar year 1940	78,892.4	2,300	4.1	216	1.28	17.37
January	9,863	900	80	318	1.88	2.17
February	7,013	800	70	250	1.48	1.54
March	9,826	623	55	317	1.88	2.16
April	2,825.0	294	19.0	94.2	.557	.62
May	455.6	21	7.8	14.7	.087	.10
June	512.9	54	4.4	17.1	.101	.11
July	373.4	93	3.4	12.0	.071	.08
August	454.3	70	1.7	14.7	.087	.10
September	149.9	25	1.7	5.00	.030	.03
Water year 1940-41	46,503.0	1,100	1.7	127	.751	10.22

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 7-15, Jan. 29 to Feb. 12, Feb. 21 to Mar. 2, Mar. 10-15, Mar. 18-23. Backwater from Shenango River Dec. 29 to Jan. 3, Feb. 14-18; discharge computed on basis of one discharge measurement and records for Shenango River at Sharpsville, Little Shenango River at Greenville, and Shenango River at Pymatuning Dam.

Connoquenessing Creek at Hazen, Pa.

Location.- Water-stage recorder, lat. 40°49'00", long. 80°14'35", at highway bridge at Hazen, Beaver County, half a mile upstream from Brush Creek. Datum of gage is 852.31 feet above mean sea level, adjustment of 1912. Prior to June 23, chain gage at same site and datum.

Drainage area.- 356 square miles.

Records available.- October 1919 to September 1941, October 1931 to September 1941 in reports of U. S. Geological Survey. June 1915 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 22 years (1919-41), 480 second-feet.

Extremes.- Maximum discharge during year, 6,040 second-feet July 19 (gage height, 9.18 feet); minimum, 14 second-feet Sept. 29, 30 (gage height, 0.90 foot).
1915-41: Maximum discharge, 16,700 second-feet June 29, 1924 (gage height, 16.66 feet, from rating curve extended above 11,000 second-feet); minimum observed, 6.0 second-feet July 21-23, 1936 (gage height, 0.82 foot).

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily prior to June 23. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	70	998	1,170	428	220	339	85	144	68	333	65
2	30	568	1,100	1,310	405	210	319	79	641	54	183	68
3	29	286	674	1,450	405	255	280	74	310	47	146	57
4	28	204	405	1,170	299	2,260	280	71	1,630	49	124	262
5	26	156	320	835	280	1,170	1,580	69	2,260	89	98	205
6	23	144	320	674	270	800	2,040	67	1,310	68	76	489
7	24	133	360	614	360	580	1,380	67	802	50	57	247
8	24	129	556	529	360	450	1,030	160	900	104	49	148
9	25	122	405	405	320	420	802	162	492	126	46	113
10	29	114	405	339	300	410	614	126	339	65	40	94
11	26	137	382	319	290	450	503	94	262	54	45	94
12	25	282	360	280	280	738	382	78	216	86	88	76
13	25	298	1,020	245	330	674	339	71	228	125	113	65
14	22	210	802	215	700	868	319	71	360	68	63	57
15	23	213	a430	210	*1,310	802	280	71	262	63	2,290	52
16	21	187	477	220	1,030	932	245	145	280	85	2,740	47
17	19	161	1,030	300	835	643	245	375	262	70	1,060	44
18	20	149	802	405	614	556	222	340	222	53	520	42
19	25	131	*643	503	452	520	209	206	159	3,840	375	39
20	29	127	529	452	382	490	186	159	128	1,200	315	38
21	32	124	477	*280	330	580	166	128	100	536	211	34
22	32	120	428	428	290	770	149	110	92	298	162	32
23	29	118	360	770	280	770	139	102	87	187	136	30
24	29	149	299	614	*235	965	137	90	76	148	126	30
25	29	181	280	900	270	998	126	83	71	121	113	25
26	29	158	262	674	295	868	115	71	62	105	124	21
27	29	1,350	305	584	290	738	104	64	54	98	115	16
28	27	*1,170	3,180	503	240	*584	98	61	45	87	96	15
29	27	802	2,660	477		503	94	61	53	73	78	14
30	39	584	2,340	452		382	89	558	68	74	65	14
31	67		1,740	428		360		200		458	56	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	876	67	19	28.3	.079	.09
November	8,577	1,350	70	286	.803	.90
December	24,349	3,180	262	785	2.21	2.55
Calendar year 1940	192,061	10,200	19	525	1.47	20.07
January	17,755	1,450	210	573	1.61	1.86
February	11,860	1,310	235	424	1.19	1.24
March	20,966	2,260	210	676	1.90	2.19
April	12,811	2,040	89	427	1.20	1.34
May	4,098	558	61	132	.371	.43
June	11,915	2,260	45	397	1.12	1.25
July	8,549	3,840	47	276	.775	.89
August	10,044	2,740	40	324	.910	1.05
September	2,530	489	14	84.3	.237	.26
Water year 1940-41	134,330	3,840	14	368	1.03	14.05

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Slippery Rock Creek at Wurtemburg.
Note.- Stage-discharge relation affected by ice Dec. 5, 6, Jan. 14-17, Feb. 6, 9-14, Feb. 21 to Mar. 2, Mar. 6-11, 19-21.

Slippery Rock Creek at Wurtemburg, Pa.

Location.- Chain gage, lat. 40°53'00", long. 80°13'55", at highway bridge at Camp Elwood, 2 miles north of Wurtemburg, Lawrence County, and 2.8 miles upstream from mouth. Datum of gage is 831.40 feet above mean sea level, adjustment of 1907. Prior to Oct. 1, 1940, chain gage at site 2 miles downstream. Datum of gage was 812.48 feet above mean sea level, adjustment of 1907.

Drainage area.- 398 square miles.

Records available.- October 1918 to September 1920, October 1931 to September 1941 in reports of U. S. Geological Survey. January 1912 to September 1941 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 28 years (1912-32, 1934-41), 552 second-feet.

Extremes.- Maximum discharge during year, 3,410 second-feet July 31; maximum gage height, 9.0 feet Mar. 4, ice jam; minimum discharge observed, 35 second-feet Sept. 27 (gage height, 0.80 foot); minimum daily discharge, 39 second-feet Sept. 27.
1912-41: Maximum discharge, 25,700 second-feet Jan. 25, 1937 (gage height, 12.05 feet, from floodmark, site and datum then in use), from rating curve extended above 8,000 second-feet; minimum observed, 10 second-feet Aug. 22, 25, 1938; minimum daily discharge, 12 second-feet Aug. 25, 1938.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily. Some regulation at low flow by mills upstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	104	832	1,130	400	280	525	112	144	150	1,960	102
2	61	265	1,070	935	420	270	525	104	454	110	1,050	86
3	58	434	580	1,380	470	470	470	93	424	91	552	86
4	54	239	450	1,130	385	3,000	405	95	460	91	284	106
5	48	175	420	765	340	2,050	968	93	1,540	83	244	110
6	53	164	440	552	320	1,450	2,050	91	1,210	77	175	162
7	51	239	479	470	500	1,050	1,470	93	735	75	147	192
8	49	182	1,180	420	500	820	1,010	222	470	117	117	127
9	54	153	835	390	440	600	670	294	327	205	107	104
10	53	122	580	370	390	520	580	346	226	107	97	93
11	49	189	525	341	360	570	498	214	141	91	95	87
12	47	738	484	336	330	670	420	164	144	100	201	79
13	45	540	1,630	317	470	610	370	141	546	91	150	74
14	47	298	1,650	266	*930	732	322	122	1,270	89	134	68
15	45	234	900	230	2,250	900	298	122	1,050	83	961	71
16	56	210	1,220	248	1,450	865	275	205	1,750	87	1,710	66
17	48	182	2,160	332	1,150	865	262	376	1,560	100	865	74
18	56	171	1,380	722	880	610	234	313	970	114	571	65
19	57	214	*830	835	740	580	234	230	610	1,890	416	56
20	60	222	670	470	600	552	218	167	370	1,210	122	62
21	60	*289	552	*346	480	798	205	131	257	525	162	53
22	54	298	498	525	410	1,110	197	114	205	317	148	52
23	58	244	400	1,110	360	1,210	197	122	171	182	120	54
24	56	226	356	970	330	1,380	175	210	144	131	117	64
25	56	244	298	640	340	1,560	160	164	131	107	106	54
26	57	226	298	610	360	1,130	150	114	104	85	211	51
27	54	728	341	525	360	865	134	95	91	85	565	39
28	54	*900	1,800	470	320	*798	128	89	97	66	243	56
29	47	580	2,620	450		670	122	91	148	64	156	50
30	75	470	2,380	420		552	117	110	304	267	129	48
31	87		1,650	410		498		153		2,470	108	

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,706	87	45	55.0	0.138	0.16
November	9,280	900	104	309	.776	.87
December	29,508	2,620	298	952	2.39	2.76
Calendar year 1940	211,084	7,340	33	577	1.45	19.40
January	18,115	1,380	230	584	1.47	1.69
February	16,285	2,250	320	582	1.46	1.52
March	28,035	3,000	270	904	2.27	2.62
April	13,389	2,050	117	446	1.12	1.25
May	4,990	376	89	161	.405	.47
June	16,053	1,750	91	535	1.34	1.50
July	9,260	2,470	64	299	.751	.87
August	12,021	1,960	95	388	.975	1.12
September	2,391	192	39	79.7	.200	.22
Water year 1940-41	161,033	3,000	39	441	1.11	15.05

* Winter discharge measurement made this day.
Note.- Stage-discharge relation affected by ice Dec. 4-6, Jan. 15, 29-31, Feb. 5 to Mar. 11.

Miscellaneous Discharge Measurements for the year ending September 30, 1941

Stream	Location	Date	Gage Height	Discharge	Drainage area	Per square mile
Delaware River Basin	New Street Bridge, Bethlehem	Nov. 14		67.3	49.6	1.36
Monocacy Creek	do	Dec. 18		69.0	49.6	1.39
do	do	Feb. 15		512	49.6	10.3
do	do	Apr. 2		73.0	49.6	1.47
Wild Creek	Below Wild Creek Dam	Jan. 30		1.99		
do	do	Jan. 30		2.06		
do	do	Jan. 30		2.28		
do	do	Mar. 7		.89		
do	do	Mar. 7		1.99		
do	do	Aug. 6		1.95		
do	do	Mar. 7		1.01		
do	do	Mar. 7		.66		
Tributary to Wild Creek	Above Wild Creek Dam	June 5	3.21	787	215	3.66
do	do	June 17	2.36	312	215	1.45
Susquehanna River Basin	At Monroeton	July 2	1.55	46.1	215	.214
Towanda Creek	do	July 3	1.40	29.7	215	.138
do	do	July 30	1.34	31.4	215	.146
do	do	Sept. 10	1.46	40.9	215	.190
do	do	July 2	1.07	8.98	215	.042
Tributary to Towanda Creek	At Monroeton 350 feet downstream from gage	May 2	1.45	33.0	44.4	.743
Lackawanna River	Forest City	May 2	1.45	33.7	44.4	.759
do	do	Sept. 5		602	487	1.24
West Branch of Susquehanna River	Clearfield	Sept. 19		79.0	487	.162
do	do	Oct. 12		11.4	69.4	.164
Mosquito Creek	Mouth at Karthaus	Nov. 21		101	69.4	1.46
do	do	Jan. 7		168	69.4	2.42
do	do	Feb. 21		63.8	69.4	.919
do	do	Mar. 26		291	69.4	4.19
do	do	Apr. 8		426	69.4	6.14
do	do	May 21		27.3	69.4	.393
do	do	July 2		25.0	69.4	.360
do	do	Aug. 14		5.05	69.4	.073
do	do	Sept. 18		5.05	69.4	.073
Tributary to Spring Creek	Mouth near Axemann	Apr. 7		1.20		
do	do	May 20		.39		
do	do	July 3		1.16		
do	do	Aug. 15		4.10		
do	do	Sept. 16		1.22		
do	do	Oct. 16		1.01		
Hagaman Run	South Williamsport	Oct. 3	.46	.05	6.31	.005
do	do	Nov. 15	1.26	8.72	6.31	1.38
do	do	Dec. 19	1.50	25.8	6.31	3.77
do	do	Jan. 7	1.26	12.2	6.31	1.93
do	do	Feb. 5	.86	2.04	6.31	.323
do	do	Mar. 24	1.34	14.2	6.31	2.25
do	do	May 5	1.11	6.61	6.31	1.05

Miscellaneous Discharge Measurements for the year ending September 30, 1941
(Continued)

Stream	Location	Date	Gage Height	Discharge	Drainage area	Per square mile
Susquehanna River Basin						
Hegemen Run	South Williamsport	June 19	.93	2.80	6.31	.444
do	do	June 19	.93	2.75	6.31	.436
do	do	Aug. 1	0.38	0.39	6.31	0.062
do	do	Sept. 11	.36	.05	6.31	.008
do	do	Sept. 12	.36	.03	6.31	.005
do	do	Sept. 26	.35	.02	6.31	.003
Slip Run	Mouth near Sonestown	Dec. 18		7.80	1.33	5.86
do	do	Feb. 25		.42	1.33	.316
do	do	Mar. 28		3.88	1.33	2.92
do	do	Apr. 1		11.5	1.33	8.65
do	do	Apr. 14		3.25	1.33	2.44
do	do	Apr. 15		3.42	1.33	2.57
do	do	May 8		.56	1.33	.421
do	do	Sept. 13		.04	1.33	.030
Juniata River	Lewistown	Sept. 11	2.60	595	2,714	.219
Little Bald Eagle Creek	Tyrone	Oct. 9	.65	4.83	45.1	.107
do	do	Nov. 19	.95	26.5	45.1	.588
do	do	Jan. 9	1.23	61.9	45.1	1.37
do	do	Feb. 18	1.08	38.9	45.1	.863
do	do	Apr. 9	1.81	188	45.1	4.17
do	do	May 22	.73	20.8	45.1	.461
do	do	July 1	.88	20.1	45.1	.446
do	do	Aug. 13	.78	17.6	45.1	.390
do	do	Aug. 13	.78	13.8	45.1	.306
do	do	Sept. 16	.74	10.3	45.1	.228
Yellow Creek	Three miles upstream from Loysburg	Sept. 18		18.0	24.8	.726
do	do	Sept. 27		7.77	24.8	.313
do	Two miles upstream from Loysburg	Sept. 18		27.6	38.7	.713
do	do	Sept. 27		15.7	38.7	.406
Potter Creek	Mouth near Loysburg	Sept. 18		7.86	13.1	.600
do	do	Sept. 27		7.25	13.1	.553
Three Springs Creek	Mouth near Loysburg	Sept. 18		2.95	9.85	.299
do	do	Sept. 27		2.95	9.85	.299
Beaver Creek	Mouth near Loysburg	Sept. 18		7.54	19.0	.397
do	do	Sept. 27		5.80	19.0	.305
Ohio River Basin						
Mathews Run	Mouth at Youngsville	Jan. 15		11.1	15.7	.707
do	do	Apr. 9		41.6	15.7	2.65
Cherrytree Run	Mouth, 1 mile north of Rouseville	Jan. 16		14.6	16.1	.907
do	do	Feb. 26		11.2	16.1	.696
do	do	Mar. 5		41.7	16.1	2.59
do	do	Apr. 8		41.5	16.1	2.58
do	do	May 28		6.69	16.1	.416
do	do	June 6		7.60	16.1	.472
do	do	July 10		12.7	16.1	.789
do	do	Aug. 13		19.9	16.1	1.24
Clarion River	St. Petersburg	Oct. 7	1.48	180	1,246	.144
do	do	Nov. 13	2.47	456	1,246	.366
do	do	Nov. 14	2.62	770	1,246	.618

Miscellaneous Discharge Measurements for the year ending September 30, 1941
(Continued)

Stream	Location	Date	Gage Height	Discharge	Drainage area	Per square mile
Ohio River Basin						
Clarion River	St. Petersburg	Dec. 9	6.24	4,370	1,246	3.51
do	do	Jan. 13	4.72	2,440	1,246	1.96
do	do	Mar. 25	7.53	7,010	1,246	5.63
do	do	Apr. 10	6.18	4,500	1,246	3.61
do	do	May 6	2.24	518	1,246	.416
do	do	June 17	6.20	4,380	1,246	3.52
do	do	July 8	4.80	2,800	1,246	2.25
do	do	Aug. 11	1.21	137	1,246	.110
do	do	Sept.30	1.44	214	1,246	.172
Mahoning Creek	Near Dayton	Oct. 24	1.84	45.4	321	.141
Stony Creek	Hollsopple	Oct. 7	1.91	25.6	244	.105
Loyalhanna Creek	New Alexandria	Oct. 10	2.20	44.6	265	.168
Temmile Creek	West Bethlehem Township	June 4-5		7,800	99.3	78.5
Wisecarver Run	At Waynesburg	June 4-5		827	3.91	212
Ruff Creek	At Grimes School	June 4-5		8,900	21.1	422
do	At Lippincott School	June 4-5		9,490	23.8	399
Castile Run	At Old Castile School	June 4-5		2,320	1.76	1,320
do	At Riggle Farm	June 4-5		10,000	4.25	2,350
Twomile Run	Near Brownsville	June 4-5		3,650	2.68	1,362
Tributary to Monongahela River	East Pike Run Township	June 4-5		286	.17	1,680
Dunlap Creek	At Dunlap	June 4-5		3,560	36.0	98.9
Branch of Dunlap Creek	Redstone Township	June 4-5		45.0	.19	237
Fourmile Run	do	June 4-5		58.0	.24	242
Redstone Creek	At Braznell	June 4-5		12,800	105	122
Allen Run	Near Smock	June 4-5		3,070	3.17	968
Crabapple Run	At Spillway Lake	June 4-5		860	1.33	647
Washwater Run	Jefferson Township	June 4-5		1,320	1.58	835
Colvin Run	At Grindstone	June 4-5		2,000	2.68	746
Pike Run	At Daisytown	June 4-5		7,710	20.1	384
do	Near Coal Center	June 4-5		7,860	20.7	380
North Branch of Little Redstone Creek	Jefferson Township	June 4-5		154	.28	550
Town Line Run	Mouth at Markleton	Aug. 8		.78	14.9	.052
Indian Creek	At Indian Run Dam	June 4-5		6,430	110	58.5
Branch of Washington Run	At Star Junction, Upper Dam	June 4-5		730	.65	1,120
do	do....., Lower Dam	June 4-5		620	1.02	608
Jacobs Creek	At Bridgport, Upper Dam	June 4-5		1,970	31.8	61.9
Raccoon Creek	At Moffatts Mill	Sept. 26	1.44	18.1	178	.102

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END OF YEAR

End of Title

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REWIND